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CONTENTS OF PREVIOUS

JUNE [illegible] NUMBER

Systematized Anesthesia, [illegible] the Single Muscles. Henry F. Middleton, M.D., and Francis W. Lynch, M.D., Minneapolis.

Medical Association Law. Clarence Martin Hunt, Topeka, Kansas, [illegible] Courts. Lucius E. Burch, M.D., Memphis, Tenn., and Edward H. Farmer, M.D., Memphis, Tenn.

Practical Clinical and Laboratory Aspects of Precipitation Tests for Syphilis. E. C. Dickson, M.D., San Francisco, Cal., Thomas J. Bucher, M.D., Los Angeles, Cal., Joseph Herrick, M.D., Grand Rapids, Mich., and J. M. [illegible] M.D., Chicago.

Roentgenological Study Versus [illegible] Stomach. Eli G. Gilbertson, M.D., New York.

Xeroderma Pigmentosum: A Study in Sensitiveness to Light. Francis X. Lynch, M.D., St. Paul.

Rupture Complete and Incomplete, Pathological Human Records. Herman Bendix, M.D., and John H. Gundry, M.D., Philadelphia.

Pamphlet: Book of Readings [illegible] Leukemia: Pathological Evidence Against Its Genuineness. H. Z. Giffin, M.D., with the Technical Assistance of [illegible], New York.

Digestion of the Proteins a Cause of Radiologic Anatomical Distortion: Some Influence on the Abdomen of [illegible] of the Bowel. Theodore Corbitus, [illegible], Colorado.

Biography of [illegible] Cases Dem[illegible] Tabloid [illegible] [illegible] New York.

Medical [illegible] [illegible] of Illinois [illegible]

Notes and [illegible]

Obituary: Jay Frank [illegible], M.D.

Address [illegible]

Society Trans[illegible] Association [illegible] L. A. [illegible] Society. Kansas [illegible] New York [illegible] Academy. Denver [illegible] New York [illegible] Cleveland [illegible] Penn. [illegible]

Book Reviews:

Directory of [illegible]

General Index

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Archives of Dermatology and Syphilology

VOLUME 30 JULY 1934 NUMBER 1

TREATMENT OF RESISTANT SOMATIC SYPHILIS

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AND
WILLIAM L. McBRIDE, M.D.
KANSAS CITY, MO.

No attempt will be made in this paper to explain the mechanism of the interreactions between the various metallic antisyphilitics, the organism of syphilis and the cells of the human body.

There is reason to believe that there is practically no such thing as arsenic, bismuth or mercury fast syphilis. The failure of the patient to respond is not due to the inefficiency of these remedies, but probably to the fact that a certain portion, or all, of his defense mechanism fails to respond to the drugs.

In this discussion, idiosyncrasies to various chemicals will not be included.

The reticulo-endothelial system is one of the important factors in the defense of the human body against disease; whether or not this is the only factor remains a question, and all of its various interreactions are debatable.

No attempt will be made to explain the physiologic or chemical reaction of this system beyond the point in question.

RÔLE OF THE RETICULO-ENDOTHELIAL SYSTEM

The reticulo-endothelial system is composed of the endothelial lining of the blood vessels, certain portions of the lymphatics, the stellate-Kupffer cells of the liver, certain connective tissue cells in the brain and spinal cord, the osteoblasts and osteoclasts of the skeletal system and the great storehouse and factory—the spleen. The defense units of the system are the macrophages, plasmacytes and lymphocytes. The pathologic process of early syphilis is a typical example of the reaction of the system in its effort to destroy Spirochaeta pallida.

That what is classified as a benign type of syphilis terminates badly has often been observed. This observation has been based on the assertion that persons who have a florid secondary eruption are less likely

Read at the Fifty-Sixth Annual Meeting of the American Dermatological Association, Chicago, June 9, 1933.

to have sequelae in the somatic or central nervous system. To judge by the pathologic changes of the secondary eruption, it must be admitted that this phenomenon is only part of the general stimulation of the reticulo-endothelial system and therefore only part of the immunizing process.

It is also possible that when the system is subjected to mild stimulation there is only a slight response. For example, in a case of early syphilis in which the dark-field examination has given positive results and the Wassermann reaction is negative the reticulo-endothelial system has been stimulated only slightly. Energetic treatment is given in the hope that the organism will be eliminated en masse. Unfortunately, a few spirochetes are left and when they begin to increase in number and activity, the reticulo-endothelial system, having once been stimulated by them, refuses to respond. As a consequence, the subsequent syphilitic lesions do not yield to mercury, arsenic or bismuth preparations or the iodides. A great many cases of resistant somatic syphilis fall into this group.

RÔLE OF MALARIA IN THE TREATMENT OF SYPHILIS

It is a strange observation that the reticulo-endothelial system can again be stimulated to the height of activity by a parasite of a different species and that the organism of syphilis can be driven into the open, owing to its response to the second invader, but when this parasite, in its turn, becomes deeply embedded in the human tissue, it may likewise be driven into the open by typhoid vaccine, tuberculin and similar agents.

When the malarial parasite is injected into the blood stream of a syphilitic patient, an almost immediate response is made by the reticulo-endothelial system. The individual cells of the endothelial lining of the blood vessels begin to grow, become detached and penetrate the tissues as a unit, designated as the macrophage.

The macrophages wander about through the blood stream and tissues, using the malarial parasite as food. They likewise attack the organisms of syphilis and open up lymph spaces by devouring dead cells, toxins and inflammatory residue left in the wake of Spirochaeta pallida, so that the oxygenated blood may once more reach diseased parts in sufficient amounts to restore them to a somewhat normal condition. All other units of the reticulo-endothelial system respond in a similar manner. As a result, constructive and destructive lesions of the bone and persistent syphilids of the skin are healed, and the signs of acute interstitial keratitis disappear. This result is secured from malaria alone.

These lesions are not healed permanently. They will make their reappearance within from four to six months. In a few instances, lesions become reactivated shortly after the healing process.

From experimental work, the following principle was assumed: Malarial therapy enhances subsequent treatment to such an extent that antisyphilitic remedies which were a failure before the use of malaria became proficient following its administration.

The following case verifies this statement:

A patient in the early stages of syphilis, with massive nodular lesions distributed over the entire body, acquired arsenical dermatitis and hepatitis after two doses of neoarsphenamine. The patient recovered, all external evidences disappeared, and the Wassermann reaction became negative. Within three months, large ulcerating lesions, distributed over the entire body, made their appearance. Treatment for one year with mercury and bismuth preparations and iodides failed to clear up the lesions. However, all of the lesions healed promptly after the administration of malarial therapy, and the Wassermann reaction became positive. Within five months after the malarial therapy, ulcerating syphilids again made their appearance, but responded promptly to treatment with a bismuth preparation and sodium iodide.

Two cases with corymbose lesions, which are the most resistant to antisyphilitic treatment, responded promptly to malarial therapy. The lesions did not reappear under subsequent treatment. Other cutaneous lesions responded in a like manner to the same method of treatment.

Fourteen cases of interstitial keratitis responded to malarial therapy alone, the acute symptoms disappearing within from four to eight weeks. When the scars in the cornea were of long standing, treatment had no effect, as there is no form of therapy that will remove scar tissue.

Three cases of constructive lesions of the bone due to syphilis responded to the malarial treatment alone.

The various types of syphilitic manifestations are reported merely to show the efficiency of malarial therapy.

In the cases of interstitial keratitis in which the patients had been given antisyphilitic treatment immediately following the malarial therapy, there was a prompt return of all of the acute symptoms. On the cessation of the treatment and the institution of local therapy, the symptoms promptly disappeared. The institution of treatment too soon after the malarial therapy may bring back the original condition.

This phenomenon may be explained in the following manner: Malaria has a powerful effect on the individual cells of the body and may place them much in the same position as the cells of the brain and spinal cord when the arsphenamines are administered, producing the so-called "recidive." We have coined the word "somatorecidive" for this condition. In other words, the somatic cells may temporarily have lost their defense against the heavy metals, but if given time they will regain their tolerance. We consider that at least three months should elapse following malarial therapy and the institution of further antisyphilitic treatment. This observation may account for the poor results in dementia paralytica which were wrongly attributed to the malaria.

RÔLE OF HEAT

Work has been done which strongly indicates that heat well within the limit of human tolerance will kill Spirochaeta pallida in vitro. The proponents of this method of treatment believe that heat is the main factor in this complex problem, and that the production of hyperpyrexia is as efficient as malaria.

We believe that heat is an activating factor alone, which in itself does not destroy the organism of syphilis. We have had a number of patients who had temperatures between 106 and 108 F. on more than one occasion. If no further treatment is instituted, the symptoms recur in some patients and a persistent positive Wassermann reaction in others. If high temperature alone could kill the organisms of syphilis, the disease in these patients would have been eliminated.

CONCLUSIONS

1. Resistant cases of somatic syphilis that do not respond to the routine therapy are not due to the inefficiency of arsenic, bismuth or mercury preparations or iodides, but to the failure of the defense mechanism of the body.

2. This defense mechanism may again be activated by the administration of malaria, heat therapy or typhoid vaccine. The efficiency of these three forms of treatment is in the order named, heat, we believe, being only an activating factor.

3. Malaria enhances the value of subsequent treatment, but if the treatment is used too soon, the malaria may precipitate the original condition.

4. For these reasons, we advise the use of malarial therapy in the treatment of resistant somatic syphilis.

5. We advocate the treatment in the great quiescent stage of syphilis, providing there are no contraindications.

1524 Professional Building.

DISCUSSION

DR. HAROLD N. COLE, Cleveland: I wish to commend Dr. McBride and Dr. Dennie on their remarkable results. We have used malarial therapy in interstitial keratitis a great deal, practically always as a last resort, and often the patients respond to this form of therapy when they do not respond to any other.

As to results in late syphiloderms, about a year ago we were asked to go over to the neurologic ward to see a patient who had been treated with malarial therapy. The history was that he came into the hospital with an eruption, but no attention was paid to it. After malarial therapy it did not improve. He had a pronounced serpiginous syphiloderm on the back which did not respond to the malarial therapy.

Dr. Paul A. O'Leary, Rochester, Minn.: We have used malarial therapy especially in the treatment of congenital neurosyphilis, and we have used typhoid vaccine therapy in the treatment of children with interstitial keratitis, the vaccine given concurrently with arsphenamine and bismuth. Our experience has been much the same as that of Dr. McBride and Dr. Dennie. In the group with interstitial keratitis the duration of the photophobia was decreased. In the group with congenital neurosyphilis our results from malarial therapy have been far inferior to those obtained in the treatment of acquired neurosyphilis.

In their discussion of the mechanism by which these results are obtained, Dr. McBride and Dr. Dennie indicated that the stimulation of the reticulo-endothelial system was the significant factor. I do not believe that the evidence favoring this concept is as potent as the one which suggests that heat per se accomplishes the therapeutic results. It has been shown at the University of Rochester in Rochester, N. Y., that the thermal death point of the gonococci is in the neighborhood of 37 C., and that accordingly gonorrhea can be cured with a couple of applications of radiothermy. Likewise, in the group with arthritis the application of dry, slightly humidified heat to the entire body is accomplishing similar results. My experience in the use of malarial therapy and electrical measures for producing heat in the treatment of neurosyphilis has shown that malaria gives decidedly better therapeutic results than the other measures, and that the best results are obtained in patients who have had prolonged high fevers. No doubt fever is not the only factor, but at least it is among the foremost. This is a new concept of the application of heat to the human body, and it must deserve consideration in the interpretation of the mechanism of fever therapy.

Dr. Charles C. Dennie, Kansas City, Mo.: I am not a proponent of the heat factor alone in the treatment of syphilis. I can show that it does not have a curative effect. In many patients the symptoms disappeared for a time but returned in from four months to a year. The patients had temperatures of 105 F. and above on several occasions; one patient had a temperature of 108 F. Hyperpyrexia in these cases was not fatal to all of the spirochetes.

I make the prediction that heat alone will not destroy the syphilitic organism. That it will stimulate the reticulo-endothelial system must be proved. The proponents of heat therapy must show that this method will heal visible syphilitic manifestations of the late variety.

HYDROGEN ION CONCENTRATION OF LOTIONS USED IN TREATMENT OF ACNE

HERMAN GOODMAN, M.D.
WITH THE TECHNICAL ASSISTANCE OF ABRAHAM TAUB, PH.G., B.S., M.A.
NEW YORK

Recently a quantitative study was made of the hydrogen sulphide content of some of the lotions used in the topical treatment of acne. This research gave reason to believe that the old lotio sulphurata held fewer sulphide ions than the new. In other words, the effectiveness of lotio sulphurata depends on the presence of sulphide ions, which in theory was conceded to depend on the hydrogen ion concentration of the solution. From these experiments, it was thought that a knowledge of the hydrogen ion concentration would be of considerable aid in the preparation and storage of lotions employed in the topical treatment of acne.

Prof. Abraham Taub of the College of Pharmacy of Columbia University did these determinations. He used the quinhydrone electrode potentiometer. The possibility of error with this type of electrode is conceded, but such error is held to be constant for the tests reported in this article.

HYDROGEN ION CONCENTRATION

It is theoretically possible, according to our thesis, to prepare lotio sulphurata by adding zinc sulphate to a solution of hydrogen sulphide gas in water which has been alkalinized by the addition of ammonia. Since hydrogen sulphide is present in solutions of potassa sulphurata, Vleminckx's solution, etc., and since these solutions are alkaline when freshly prepared, the following solutions were prepared, and the p_H was determined on them:

(*a*) Hydrogen sulphide gas in alkalinized water..... p_H 8.9
(*b*) Hydrogen sulphide gas in alkalinized water plus equal parts of 50 per cent zinc sulphate in water..... p_H 7.2
(*c*) Solution of *b* diluted with water..... p_H.6.4

A study was made of the hydrogen ion concentration of the two ingredients used in the preparation of lotio sulphurata. Chemical studies showed that an aqueous solution of zinc sulphate contains no hydrogen sulphide, while the filtered aqueous solutions of potassa sulphurata

From the Stuyvesant Square Hospital, formerly the New York Skin and Cancer Hospital, and from the College of Pharmacy, Columbia University.

showed a high content of hydrogen sulphide. The following p_H determinations gave further proof of these facts:

(*a*) Zinc sulphate, 50 per cent, in water..... p_H 5.4
(*b*) Zinc sulphate, 12.5 per cent, in water..... p_H 6.4
(*c*) Filtered aqueous solution of potassa sulphurata..... p_H circa 14

The samples of lotio sulphurata and potassa sulphurata were procured from the pharmacy of the Stuyvesant Square Hospital several days before the tests were made. These lotions are designated as new. Similar lotions which had been prepared in January, 1933, tested chemically and stored with cork stoppers covered with adhesive tape, are listed as old. Determinations of p_H were as follows:

	New	Old
(*a*) Lotio sulphurata, four-ply [1].....	p_H 6.9	p_H 4.8
(*b*) Lotio sulphurata, four-ply, plus equal parts of water	p_H 6.8	p_H 4.3
(*c*) Solution *b* diluted with equal parts of water.....	p_H 6.9	p_H 3.9

Chemical studies showed that the supernatant fluid of lotio sulphurata yielded less hydrogen sulphide than the precipitate found in the bottom of the bottle.

The p_H was determined on the supernatant liquid of the following solutions:

(*a*) Supernatant liquid from new lotio sulphurata, four-ply..... p_H 5.6
(*b*) Supernatant liquid from old lotio sulphurata, four-ply..... p_H 4.9
(*c*) Supernatant liquid from hydrogen sulphide gas in water plus 50 per cent zinc sulphate in water..... p_H 3.0

Another lotion used in the topical treatment of acne is Kummerfeld's solution. The hydrogen ion concentration was determined and was found to be on the acid side. The reason for this will require further study.

To show the range of the p_H of the solutions studied, we give the p_H of one-tenth normal sodium hydroxide as p_H 13.2, of distilled water in contact with air as 5.7 and of one-tenth normal hydrochloric acid as 1.07.

SUMMARY

Recently prepared lotio sulphurata, the quantitative study of which showed a fair amount of hydrogen sulphide, had a p_H of 6.9, which remained constant despite several dilutions. Old lotio sulphurata, on the other hand, showed a low hydrogen sulphide content, and the p_H was found to be 4.8. The acidity of this lotion was increased on further dilution.

1. The term "four-ply" means that 4 drachms (15.5 Gm.) of zinc sulphate and 4 drachms of potassa sulphurata were used to every 4 ounces (120 cc.) of water.

Hydrogen sulphide gas in ammoniacal water was found to have a p_H of 8.9. The hydrogen ion concentration of this solution was 7.2 when 50 per cent zinc sulphate was added. On further dilution, a p_H similar to that of lotio sulphurata prepared from potassa sulphurata was obtained.

An aqueous solution of zinc sulphate, one of the ingredients of lotio sulphurata, was acid. Freshly prepared solutions made from fresh solid potassa sulphurata were strongly alkaline. Supernatant liquid from new, old and synthetic lotio sulphurata was found to be acid.

CONCLUSIONS

From this study, it seems that the hydrogen ion concentration may be used to determine the clinical value of lotions used in the treatment of acne, the activity of which depends on the sulphide ions.

A lotion containing sulphide ions which retains its p_H on moderate dilution with water is of value clinically in topical application in acne vulgaris. Contrariwise, a lotion which contains sulphide ions and has a p_H of 5 or less and which shows a drop in the p_H value on moderate dilution with water is of little value clinically in topical application in acne vulgaris.

These experiments offer an opportunity for revising the present ideas as to the preparation and storing of hydrogen sulphide lotions for the treatment of acne by topical application. Studies have been made with two-bottle lotio sulphurata alkaline-reenforced lotio sulphurata and a lotio sulphurata protected against the excess formation of acid. The results of this research will be published soon.

18 East Eighty-Ninth Street.

PREPARATION OF TRICHOPHYTIN

A. P. KRUEGER, M.D.
WITH CLINICAL NOTE BY
H. J. TEMPLETON, M.D.
OAKLAND, CALIF.

One of us [1] recently described a general method for the preparation of bacterial antigens which consists essentially in the avoidance of all heat or chemical treatment. The cells are grown in mass cultures, are then washed free from metabolites in isotonic solution and are ground in a special type of ball mill [2] which effectively breaks the bacteria into fragments. The emulsion prepared in this way is then filtered through a special ultrafilter,[3] and the filtrate is employed prophylactically and therapeutically. The procedure outlined obviates, to a considerable degree, the reactions of denaturation which occur when the bacterial proteins are exposed to heat or to chemical treatment. And since, as would be expected, denaturation of the antigen is reflected in an altered response of the antibodies of the host, such undenatured antigens have been employed with considerably more clinical success than has attended the use of orthodox vaccines.[4]

The possibility suggested itself that fungus antigens made according to this method might be particularly effective. Accordingly, mass cultures of Trichophyton were grown, harvested, washed and ground up. After ultrafiltration the filtrate was subjected to clinical test, and in these tests demonstrated ability, even in high dilutions, to evoke marked cutaneous responses in sensitized persons.

Further clinical tests are being made. The object in this note is to point out to dermatologists a method which has potentialities for use in their field.

From the Department of Bacteriology (Krueger) and the Cowell Memorial Hospital (Templeton), University of California.

1. Krueger, A. P.: A Method for the Preparation of Bacterial Antigens, J. Infect. Dis. **53**:237, 1933.

2. Krueger, A. P.: A New Type of Ball Mill for Maceration of Tissues and Bacteria Under Aseptic Conditions, J. Infect. Dis. **53**:185, 1933.

3. Krueger, A. P., and Ritter, R. C.: The Preparation of a Graded Series of Ultrafilters and Measurement of Their Pore Size, J. Gen. Physiol. **13**:409, 1930.

4. Frawley, J. W.; Stallings, M., and Nichols, V. C.: New Pertussis Antigen: Preliminary Clinical Report, J. Pediat. **4**:179 (Feb.) 1934. Stallings, M., and Nichols, V. C.: The Treatment of Whooping Cough with an Active Undenatured Antigen, to be published.

CLINICAL NOTE

By Dr. Templeton

I have used the trichophytins as prepared by Dr. Krueger both as diagnostic and as therapeutic agents. The trichophytin employed in this study was prepared from strains of Trychophyton interdigitale occurring in epidermomycosis of the feet in this locality.

On using dilutions of 1 : 100, 1 : 500 and 1 : 1,000 for diagnostic purposes it was noted that the Krueger antigen, injected intradermally, produced somewhat stronger reactions than did the corresponding strengths of the available commercial products. Because of the unsettled question of the therapeutic value of any trichophytin, it is difficult to evaluate this newer trichophytin. However, it is my impression that it is fully as valuable therapeutically as the other products.

AN OLD FRENCH POEM ON SYPHILIS AND ITS PROPER TREATMENT

HON. WILLIAM RENWICK RIDDELL, LL.D., D.C.L.,
F.R.H.Soc. (Lond.)
President, Canadian Social Hygiene Council
TORONTO, CANADA

Many years ago, rambling on the south bank of the Seine, I found among the many literary curiosities there exhibited for sale a volume of poetry on syphilis, imitating the classic Latin work of Hieronymus Fracastorius. Having but a short time before ceased to be a student of medicine—*Eheu! fugaces labuntur anni!*—I bought the book for a trifle and gave it on my return to my preceptor; it has recently come again into my possession, and I have read it with much interest and amusement; I here give some account of it for the entertainment of members of the medical profession.

It is an octavo of some 108 pages, well printed on good paper, but, of course, with the wretched contemporary binding. Its title reads:

SYPHILIS
Poëme en Quatre Chants
Par
BARTHELEMY
Avec des Notes Explicatives
Par
LE Dr. GIRAUDEAU du SAINTE-GERVAIS
Chevalier des Ordres du Sauveur et de l'Indépendance Hellénique, Médecin de la Faculté de Paris, Ancien Membre de l'Ecole Pratique, ex-Interne des Hôpitaux, Membre et Correspondent de plusieurs Sociétés Scientifiques.

QUATRIEME EDITION
Entièrement revue et augmentée d'un Chant

Tristius haud illa monstrum nec saevior ulla
Pestis et ira deum Stygiis sese extulit undi
Virg. *Aen.* lib.III

PARIS
Chez Martinon, Libraire,
Rue du Coq-Saint-Honoré, 4.
1851

(SYPHILIS, a Poem in four Cantos by Barthélemy, with Explanatory Notes by Dr. Giraudeau de Saint-Gervais, Chevalier of the Orders of the Savior and of Greek Independence, Physician of the Faculty of Paris, former Member of the School Pratique, formerly Intern of Hospitals, Member and Correspondent of several Scientific Societies. Fourth edition, completely revised and increased by one Canto.

> No more dire monster or more disastrous plague and wrath of the gods than this has ever emerged from the waters of the Styx. Virgil, Aeneid, Book III.

Paris, Publishing House of Martinon, 4 Coq-Saint-Honoré Street, 1851)

The book is wholly in French, except certain somewhat long quotations from the Latin of Fracastorius; and it presents no difficulty to one having even a superficial knowledge of literary French.

The author in his preface (undated) says that a few months previously the Latin poem by Jerome Fracastor (as he, *more Gallico,* calls him), the famous "Syphilidis sive de morbo Gallico," Books III, theretofore quite unknown to him, had come by chance into his hands; and, struck by the Latinity with "its crowd of beauties borrowed from ancient poesy and wholly virgilian," he had translated a few fragments of the poetry, and even contemplated a complete translation. But, further consideration decided him rather to take advantage of its contents and write a shorter poem, one of morality and public advantage. Having carried out this scheme, he thought it indispensable to add some notes to make perfectly clear what he meant in his text; and for that purpose he applied to Dr. Giraudeau de Saint-Gervais, "who . . . through friendship, had been good enough to charge himself with that laborious task, quite beyond my own powers."

The book consists of four cantos of hexameters, quite regular in every way, to which somewhat voluminous notes are added. It may be said, at once, that the main object of poem and notes seems to be the glorification of the then famous "Rob Antisyphilitique de Laffecteur," of which something will be said later in this paper.

The First Canto purports to deal with the origin of the disease, "the plague . . . which the world calls so terrible and hideous . . . born, no one knows where or when, whether . . . for ages . . . it had made its ravages in the human race . . . and like a volcano which breaks its crater, it at intervals affrighted the earth . . . or whether, at a more recent period, it made its flight from that unknown land, which Columbus discovered, and, avenging on us the liberty that land lost, America thus conquered the conquering Europe. The time is, indeed, now remote when at a stroke the cemeteries were glutted with entire populaces, when the unfortunates, a prey to their torments, thundered at by Church and Parliament, driven from cities, from temples, from hospitals, wandered through the forests, on the edge of precipices, parish vagabonds, expatriated crowds, covered the fields with their carious bones." But still, Death inevitably follows Syphilis. From Love, it comes: "Let Love come, then, and contemplate these ruins—these black cavities in the place of nostrils, these lips disfigured by sulphurous cracks, that tongue thickened to a wedge, that forehead sprin-

kled with mammoth pustules, these eyelashes without eyes, these eyes without eyelashes." No conclusion, however, is reached as to the true origin.

The Notes to this Canto give a reasonably full and accurate account of Fracastorius himself, the condition of Europe at his time and the horror and amazement of Europe at the "apparition, in 1493, of a malady more contagious than the Plague, which propagated itself without contact, and, like the cholera of our own days, traveled with the winds and everywhere spread death and desolation. This was Syphilis, and the pestilential plague appeared then without known cause; it closed the churches to prevent the gatherings which spread it; it caused public prayers, and Fracastor was forced to explain its origin by a poetic fable and by mysterious judicial astrology, which was at that time held in great veneration."

To compare the symptoms of the then existing Syphilis with that which appeared in Italy three hundred years before, the author reproduces a passage in the original Latin of Fracastorius, beginning with the line, "In primis mirum illud erat, quod labe recepta," and ending with "Dii nullas audire preces, donisve moveri." Perhaps, the chief matter to be observed here is the views expressed as to the real origin of Syphilis. While stating that the ordinary opinion is that it was introduced by the sailors of Columbus on their return, having been infected by the inhabitants of the country they had discovered, the annotator says that many believe it to be referred to in Leviticus 15:2, where a "man that hath a running issue out of his flesh" is declared unclean. The Latin poets, Juvenal and Martial, are quoted, as well as Persius, some of their verses being thought to show the existence of the disease among the Romans. Paul d'Egina, Guy de Chauliac, Becket and others are supposed to have described it and its symptoms before the time of Columbus. Early English and French statutes in respect to houses of prostitution are mentioned with the view of indicating that syphilis was being guarded against.

The Second Canto begins with a protest against blaming the Creator for implanting deep in man the desire to propagate his species, which is the cause of "the marvelous organ of fecundity" being stricken with disgrace and deformity. "No, it is not God, He has at the same time gifted man with reason, instinct, which enables him to find health." Then follows a strong attack on Mercury which the medical art, slave of a system, "infuses into the body, which it slays in curing it." If you do not believe this, go to Charenton and Bicêtre (insane asylums), the greater half of whose inmates are victims of this curse: "All these creatures sunk below the level of the brute. These prisoners gnaw the bars of their hut." Then Mercury comes in for the cudgel: "When this scourge made its appearance on the earth, the people had recourse

to vain remedies: to the useless secrets of priests, of divines. The physician, himself at the dark period, received Mercury from Arabian science. That error is pardonable. But when three centuries have passed, maturing knowledge, to live as strangers to our new era, to close the eyes to the day we bring . . . that homicidal error is not to be pardoned. . . . The worship of Mercury is an idolatrous worship. . . . Nature is not an unjust stepmother. . . . The earth, generous nurse, shows her vegetables openly, so that they may heal, while she hides with care in a deep gulf the iron which destroys and the gold which corrupts." Then a long story is told of the syphilitic melancholiac: "Rich, well educated, in the flower of his age. He had a wife, ardent in love, a beautiful child increasing in everything, each day. Oh! the torture! never by night with mystery did he visit his wife in her solitary bed. He saw, trembling, his son playing about the house, that son who was to inherit his goods—and his poison." After a description of his shocking state: "One day, his physician, tired of using his skill, advised him to take a voyage to Switzerland, to Italy: He went, but alas! without his poor breast experiencing any benefit from the sweet and wholesome air, without seeing anything, without thinking about anything but his sufferings. Hidden in his carriage, he traversed France. He fled, envying, notwithstanding his heavy labor, the lot of the postilion who whipped his horses; the fate of the pedler, who driven off the road by his carriage, dragged himself along on foot, covered with dust and mud; the fate of the beggar who, on the high road, murmured at the carriage door, as he held out his hand." Thinking he might find better doctors elsewhere he goes along, reaches Paris and at length finds himself at Montpellier. Hope, however, was in vain. "The oracle of Esculapius is the same everywhere . . . whatever doctor he consults." Then he goes to "the land of Saturn," alias Italy, passes from the Lion of San Marco (in Venice) to the Dome of Milan. "He travels without pleasure where chance drives. Then, seeking the more gentle influence of the South, he sees Pisa and Florence and the City of the Seven Hills (Rome), and Naples, which should strengthen his lungs. Alas! neither the chalet of the Swiss shepherd nor the Sun which shines on ancient Italy any more than his own country and the skill of his attendant can resuscitate that living corpse." Off home he goes, and there "Stretched upon a bed he will never leave . . . he curses a thousand times more than the disease itself the useless remedies prescribed for his ills, and exclaims in dying, 'I die, poisoned.'"

A long note follows on the evils of Masturbation, grossly exaggerated, as was customary in those days. Impotence, too, is treated of at some length; and the Rob Boyveau-Laffecteur is praised for treatment not only of syphilis itself, but also of the sequelae of the abuse of Mercury, impotence, anaphrodisia, leukorrhea and diseases of the uterus. In

a note, it is stated that while anciently Mercury was considered dangerous, in 1493, when the epidemic of syphilis broke out at Naples, it was employed in the treatment of the new disease, by reason of a similarity of its symptoms to those leprous diseases for which the Arabian physicians had with success used unguents which contained Mercury. It is added: "Notwithstanding the hideous picture given by (Ulrich von) Hutton and Fernel of the effects of Mercury, the use of it has not been diminished, because . . . far from attributing these evil effects to the medicine, most of the physicians consider them the ordinary symptoms of the disease itself. . . ."

The Third Canto deals with The Remedy, and is headed with a short quotation from Fracastorius: "Cujus et inventum medicamen munere divum: Digressus referam." Beginning with the undoubted fact that "Every time a new truth rises, Mankind subjects it to a severe test," the author goes on, after a somewhat incoherent interlude, to tell of the history of Medicine. "Nothing has changed more than Medicine: If, retracing the links of the past centuries and evoking the great names of this mystical art, you take its history at the first epoch when old Hippocrates carried the light to the days when, carrying the lamp in his hands, Celsus illuminated the ignorant Romans—If from that time, traversing the night of the Middle Ages, when Science passed over to the Saracens, after having cleared all the ancient rubbish which Paracelsus scattered after mixing in his own, and the astrologic period when the credulous people believed in Albert (-us Magnus), Cardan and Raymond Lully, you come at length under a more serene sky to your end, the century which precedes the present, you will see pass in turn, like a procession: Dogma, Hectism, Empiricism, Eclecticism, Methodism: . . . Every period formulates another theory: There is schism in Salerno and in Alexandria; and in the Ecole, prey to confused clamor, one fights for the Blood, the other for the Humors. . . . One day is seen appearing in the depths of Germany a man who at once swaggers and speaks as the Master. His metallic wand drives out all evils. What gestures! What looks! Man, animals, trees, rocks, all bow before his effluvia. The world, fascinated plunges into his tubs, launches bitter ridicule on the old belief and recognizes no other god but Mesmer. But, see! All at once, his glory is obscured. Implacable Reason drives away the false Messiah. . . . Later, Fashion adopts a new system. This comes not from a crazy brain, but from a glowing genius which the world admires and whom love of his kind makes too sanguinary. Now, thank God, without banishing the leech and Broussais, our prudence has placed a rein on their excess. And, giving up our emaciated bodies a little less to the reptile Hungary sells us, following a doctrine more sane and more compassionate, we still retain a few drops of blood. At the same time, other sects are being born and are dying. Germany,

fertile in suspicious novelties, has since sent us a Luther of Medicine with austere speech, patriarchal brow, who, long to the crowd grouped around him, discussed the destruction of his pharmacopeia. But our eyes are at length stripped of the bandage. We see the sediment (*la fécule*) at the bottom of the glass of water. The cult of Hahnemann would be dying under our epigrams if there were not today some silly women who, in default of any other trouble, invent 'vapors' and go for treatment to his deceiving mysteries. . . . It is Germany, nevertheless, that still wants to have accredited cold water as the supreme means of health. Nothing is cheaper than to apply that practice. . . . So we regret for the benefit of humanity that it should fail so soon, even among the Germans. . . . And now see that the world and the School are setting a new idol on the altar. Look, there's ether! and after ether, there's chlorine!"

After some moralizing, the author takes up the history of Medicine again: "Thus Medicine, at all periods, counts its innovators, more or less equivocal dogmas, one by one adopted or abandoned; but in that art, formed of so many arts united, that which the most closely touches the secret organs, which brings forth a hundred times more absurd arcana, as many as the letters you can count in these verses—what am I saying?—as many as you will find, when winter comes on, in the foot paths of the woods, of leaves piled up, so many panaceas has Syphilis seen. What about the poisons sold as a sovereign balm? Had I a tongue and lungs of brass, I should wear them out in recounting the history of what chemistry in its laboratory has elaborated; secrets, extravagant experiments tell of syrups, tisanes, unguents, deadly substances subtly changed into gum, into elixirs, pills or lozenges differing in taste, in form, in color, and all of them the fruit of an imbecile or deceiving art. Fatal error! since on our hemisphere accursed Hell has thrown that pestiferous scourge. I do not speak now of men without enlightenment, such as Pustel, Hermann, Avisura, Winckler, but of men, the pride of intellectual Europe: Fabrice de Hilden (i. e., Wilhelm Fabriz, or Fabricius Hildanus, as the Latinized form of his name reads [1560-1634]), Astruc, Vigo, Fallopius, Boerhaave. Was it necessary that these princes of the art should have followed the standard of the fatal Mercury? Furnished with these great names, strengthened by their patronage, it has taken the world into its possession as its own; pushed forward by ignorance or credulity, everywhere, under a thousand names, it is accredited. Sometimes its alembic distils with mystery 'the Water of Health,' 'the Nectar of Cytherea'; sometimes in the form of a sweet biscuit, it stays our hunger. At other times, it slips into the bath with us. In turn, it comes out of the chemical apparatus as viscous opiate, as balsamic syrup. Here Van Swieten, a German cup-bearer, pours out to humanity his fatal poison. There Chretien, lengthening the melancholy

list, preaches the doctrine of muriate of gold and of the Provençal sky—or of the infernal regions. . . . Some, to save the shattered invalid, invoke the virtue of the vilest foods. They make him believe that a people at the Straits of the Sonde cure themselves by eating a filthy substance, and, daring the hazards of a horrible proof, make him (they trembling) swallow lizards. There are nevertheless some not guilty of imposture: With an observant eye, they scan Nature, until under other skies, they go to conquer powerful vegetables destined to cure, and preach at great length, as a threefold wonder, China-root, Guaiacum and Sarsaparilla. But, whether their skill, out of these new offerings, had mixed unwisely the beneficient extracts or whether many other juices than their sudorific a wise Providence had mixed, had inserted, these roots, these woods that they called *divine* were nothing but vain remedies when opposed to this evil; and Syphilis, a prey to these wretched medicasters, in the suffering body—Vile Treason!—repelled one moment, devoured its prison, breathed its black leaven into the arteries and soon emerged, by great craters, the lancinating bubo, the sarcomatous ulcer; the nocturnal pruritus, which preceded them; the squamous eczema with which the skin was beset. And *Venus* regained her hideous *crown*. And at last, of the virus, father of all these evils, the sap penetrated to the furtherest branches."

But relief was at hand. Dr. Boyveau was to discover his famous Rob. "One man, meanwhile, whose philosophy was not an abstract and ethereal Utopia, a wise man, no less intelligent than studious, cut to the heart by the distress before his eyes, sacrificed his days and watchful nights to learn the effects and the virtues of plants, seeking to discover in these daughters of the sky the antidote impossible in the art of Mercury. It was little to gather on our mountains and our plains the innumerable list of indigenous simples. Under warmer suns, more remote sky, his indefatigable zeal seized a booty. Avid possessor of these salutary gifts, he searched into their most secret mysteries. He studied their taste, their strength, their perfume. He experimented with them singly, he mixed them together, observed their accords and their antipathies; then made into one whole, these diverse parts; and a hundred times came back to new experiments, not sparing his money, his time or his labor. This is how, without the work bowing his wan brow, he consumed twenty years in solving his problem. He found it! and at the very first showed, in proclaiming it, the sick cured, an invincible argument. Official witnesses, men of science, austere magistrates, who were armed with distrust, attested it with their voices, signed it with their seal. Then—such is always the blindness of humanity—prejudice, envy with its sharp tooth, calumny, expert at preparing the powdered hemlock, raised their triple head, shrieked their long cry. They did not dispute that the sick were cured, but the truth of the

remedy itself. And . . . just as the Jews, at each cure that the Divine Savior made in their presence, claimed that it was to the Devil He owed His power, so these (objectors) pretended that it was not the plants only that thus snatched the dead from the bier and that, invisible at the bottom of the dark liquid, Mercury was exerting its unique power." The discoverer demanded a rigid test, which was granted by his opponents, "sure that if the smallest particle existed, the metal would come out of everything that concealed it." Boyveau was successful: "The brow of Boyveau did not bear the seal. He triumphed. Fourcroy, Darcet and Vicq-d'Azyr searched for mercury . . . they were not able to find it." From that day, the Rob "takes its place among the great remedies and marches freely in the face of the sun."

The glories and successes of the Rob are glowingly depicted in poetry as in the Notes they are more clearly set out in prose. And now "On the wing of the Railway car, magic vehicle, it flies from Archangel to the Pillars of Hercules. It attacks Syphilis to the ends of the world. From the banks of the La Plata crowned with green trees, from the sands of Africa, the waves of Oceania it is called for; it hears the cry of agony, and, with speed the voyaging 'steamboat' brings salvation."

The Notes to this Canto are perhaps the most informative part of the work. The story is told that Dr. Boyveau on discovering this medicament determined at first to call it by the name of Laffecteur, but after 1793, it had the name of the discoverer in full, i. e., Boyveau-Laffecteur. The Société Royale de Médecine of Paris appointed a committee, composed of eight men of eminence, including Fourcroy, Darcet and Vicq-d'Azyr, mentioned in the poem, to investigate whether the Rob contained mercury as had been openly charged. The Committee reported, on Sept. 10, 1779, in the negative. The King, on Sept. 12, 1778, gave a patent to the discoverer, and a similar recognition of it was made by the Republic, the Empire and the returned Bourbons; it was prescribed for the Marine Forces, and largely used in the hospitals and in the French army. It seems to have been most effective with children.

The Fourth, the additional Canto is The Triumph. It begins with a cry of exultation: "Thus far have I sung without invoking aid the *origin*, the *evil* itself and the *remedy*." And now he calls on the Muse of Fracastorius to uphold him in his Chant of Triumph—the reason for this does not appear—beginning with a laudation of Belgium and a contention that Belgium and France are really one: "Today, as before one thousand, eight hundred and sixteen, in heart, in soul, Belgium is French. It is Paris that is her capital. Our language is her language and our God, her God." All this is because after Waterloo and the end of the Napoleonic wars, Belgium ceased to be French, and (as appears in the Notes) the importation of foreign syrups, including the famous

Rob, was prohibited, having been permitted until 1846. However, "justice is to be done in that kingdom, for a wise King rules there, a paternal Sovereign who makes the public health a sacred duty. . . . That moment has come; the High Priests of Hygeia, men of science, of honor, of authority, install themselves in her Temple with solemnity, so that on that great day their wisdom will decide whether the Rob is wholesome or whether it is homicidal; so that their verdict will, as the final authority, decide whether its triumph or its destruction is to be decreed. Two parties are present for this doubtful decision: One supports Laffecteur, the other defends Mercury. These assert at the very beginning, as an imperative principle, that without doubt one must die without Mercury. Ardent adherents, they, of the earlier School, they sprinkle incense on their dire idol, and, closing their decaying mind to progress, make the art retrograde to the times of Astruc. Then, renewing their outworn calumnies, the stale stories, the absurd slanders, they blaspheme the god who discovered Boyveau," etc., etc., "the others who won popular favor. . . . They told how through ten régimes France had sustained him in his legitimate rights; how he had made for himself, notwithstanding, a thousand opponents—a continuous reign for seventy years—and how, every day, his growing light was entering within the eyelids of a blind practice. 'Then, lastly, his unseen steps,' said they, 'crossed our boundaries, *above, below.* Then that stranger, by a secret magic, filled our Belgium with shining miracles.' " All this verse—and good verse—is intended to describe a debate at the meeting of the Académie royale de médecine de Belgique on Jan. 27, 1849, as to the merits of the Rob, at which it was unanimously decided to ask the government of Belgium to admit the Rob Laffecteur free. This was done, and now, "Calm, head erect, without guards, without fetters, from the confines of France to the Belgian boundaries, it circulates, sowing its new miracles. And, to glorify its signal effects, to double its service to humanity, the Minister who holds the Military Scepter confides the health of the army to its hands. . . ." That is, the Minister of War orders a case of the Rob for the use of the Army.

But, alas, comes the "subtle creature, compound of baseness and audacity," and the Counterfeit steals in; this is warned against at great length and with great eloquence. Its victims appear: "Some walking, carried by uncertain feet, with haggard eyes or eyelids closed, sad, pale, covered with ulcers or exostoses, eaten away in forehead, the arms, the hands, images of death, human simulacra. See, then, the infallible ravages of Syphilis. See those who swallowed the fraudulent drink. Others come on with a firm and joyous step, with eyes reflecting their health, with virile brow and rosy lips and carrying under the arm their broken crutches. These had drunk the honey of the true Rob."

And finally, the Rob spreads over the whole earth, and the Poem ends.

The Notes give full information on the discovery of this famous Rob or Syrup, its ownership and the depositaries of its secret. Instructions as to its use are also given. It cures without Mercury the diseases of the skin, herpes, scrofula, itch, ulcers and the accidents of childbed, those of the climacteric as well as those resulting from hereditary acidity of the Humors. As an antisyphilitic, it cures in a very short time; and it is especially recommended for recent infections as well as those resisting Mercury or Iodide of Potassium.

Concerning the prescription for the Rob Laffecteur, Rob Boyveau or Rob Boyveau-Laffecteur, there has been some controversy, and the question can hardly be considered free from doubt. Perhaps as good a guess as any is that given in Dunglison's medical dictionary.[1] I quote from the revised edition, a copy of which was given to me as a prize by Victoria University in 1874. This authority makes the Rob Antisyphilitic de Laffecteur identical with the Syrupus de Sarsaparillâ et Sennâ Compositus, and the French Sirop de Cuisinier. The method of preparation is:

> Rad. Sarsaparilla concis. lb. ij. Infuse for 24 hours in warm water, Oz. xii; boil for a quarter of an hour; pass with expression, and boil again the residuum in Oz.x of water. Reduce this to Oz.vi, and repeat the operation 2 or 3 times. Mix all the liquors and boil them together with Flowers of borage, white roses, senna leaves and aniseed, each lb. ij. Reduce to half; pass, and add honey lb. ij. Boil to a Syrup. Dose, f℥ss to f℥ij.

The preparation was considered to be alterant, depurative and sudorific. Corrosive mercuric chloride was sometimes added to it.

Osgoode Hall.

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1. Dunglison, R.: Medical Lexicon, Philadelphia, Henry C. Lea, 1874, p. 906.

KAHN REACTION IN A GROUP OF COLLEGE STUDENTS

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The dependability of the Kahn test and the prevalence of syphilis were determined in an unselected group of 860 male college students. The physical examinations were made and the medical histories obtained independently of the laboratory findings. It was found that there was a high degree of correlation between the Kahn reactions and the clinical findings. The prevalence of syphilis was less than 0.5 per cent. The students examined were white males ranging in age between 17 and 28, although the majority were between 18 and 23 years. With one or two exceptions all were of American parentage.

The accompanying table shows that of 860 students examined 855, or 99.42 per cent, gave negative reactions, and 5, or 0.58 per cent, gave positive reactions to the Kahn test. The clinical findings and medical histories secured of the 855 students giving negative reactions to the Kahn test were in agreement with the Kahn reaction. In the group of students having positive Kahn reactions 4, or 0.47 per cent, of the total number had syphilis and 1, or 0.1 per cent, giving a 1 plus reaction did not have syphilis.

Kahn Reaction in a Group of 860 Male College Students

Number of Students	Kahn Reaction	Per Cent Negative	Per Cent Positive	History
855	—	99.42	....	No syphilis
3	++++	.....	0.47	Syphilis
1	+			
1	+	.....	0.1	No syphilis

SUMMARY

Of 860 white male college students examined clinically and with the Kahn test 4, or 0.47 per cent, had syphilis and gave positive Kahn reactions. Of the 856 students in whom clinical and medical findings did not indicate syphilis, 1, or 0.1 per cent, gave a weak positive (1 plus) reaction to the Kahn test.

From the bacteriological laboratory of the Division of Health, St. Louis Department of Public Welfare.

PEMPHIGUS

EVIDENCE IN SUPPORT OF A BACTEREMIA AS AN EXPLANATION OF CERTAIN TERMINAL CHANGES IN THE BLOOD PICTURE

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In a case of pemphigus vegetans, Kissmeyer [1] observed a uniform diminution in the number of eosinophils during the entire course of the disease. Over a period of four months the eosinophil count fell progressively from 42.5 to 1.5 per cent. The patient died twenty days later. This work of Kissmeyer was repeated in another case of pemphigus vegetans and in a case of pemphigus vulgaris; in both cases the patients were admitted to the New York Hospital in the latter part of 1932. The following are summaries of the histories of the two patients:

REPORT OF CASES

CASE 1.—M. Z., a Hungarian Jewess, aged 49, complained of redness and itching of the eyes and soreness of the gums in April 1932. Two months later the throat and then the vagina became particularly sore. She entered the outpatient department of the New York Hospital on Oct. 28, 1932, having lost 30 pounds (13.6 Kg.) in the previous six months, and was at once hospitalized. Physical examination revealed moderate congestion of the conjunctivae and one large and several small ulcerated areas on the gums, buccal mucosa, uvula, and soft palate. The pharynx was red and congested. There was also a small, bright-red area around the urethral orifice, but no ulceration. The mouth and conjunctival conditions improved somewhat under local applications during a stay of eight days in the hospital, and the patient was discharged to the outpatient department. During this hospitalization she was afebrile. The physical condition gradually deteriorated, ulcers appeared on the labia minora on December 5, and she was again hospitalized one week later. Small vesicles arising from apparently normal skin appeared on the abdomen on December 14, and continued to appear in increasing numbers until Feb. 7, 1933. During this period the patient steadily declined. Bullae ceased to form on February 7, and death occurred four days later.

There was a low "spiky" temperature throughout the entire second hospitalization, the maximum temperatures occurring at 4 p. m. and the minimum at 8 a. m. The maximum temperature occurred on January 5 and 6, when 102.4 F. was recorded. The pulse was correspondingly elevated.

From the New York Hospital and the Department of Medicine, Cornell University Medical College.

1. Kissmeyer, A.: Ugesk. f. læger **75**:2007, 1914; Dermat. Ztschr. **22**:140, 1915; Arch. f. Dermat. u. Syph. **122**:381, 1918.

Treatment consisted of sodium arsenate, liver extract, yeast, viosterol, iron cacodylate, coagulin, ultraviolet rays and colonic irrigations.

The case was one of pemphigus vulgaris with a few vegetating lesions in the axillae and groins. Autopsy observations were: pemphigus vulgaris, fatty degeneration of the liver, subacute gastritis and terminal bronchopneumonia.

CASE 2.—L. W., an American Negress, aged 24, was admitted to the New York Hospital on Feb. 14, 1933, with a considerable number of vegetating lesions on the neck, breast, abdomen, axillae, groins, back and labia minora. The lips were greatly swollen and covered with bloody crusts. The mouth could be opened only with difficulty and presented a large denudation of mucous membrane which also involved the tongue. The condition was accompanied by a most fetid odor. Fresh vegetating lesions appeared from time to time and also an occasional flaccid bulla which soon ruptured. Progress was slowly downward, and death occurred on March 21. The hospital course was febrile throughout, the chart being of the "spiky" type with maximum temperatures at 4 p. m. and minimum temperatures at 8 a. m. The maximum temperature (104 F.) was recorded on March 14. The pulse rate was correspondingly elevated.

Treatment consisted of a soft diet high in vitamins, baths of potassium permanganate, sodium arsenate and roentgen rays. At autopsy the case was shown to be one of pemphigus vegetans, fatty degeneration of the liver and terminal bronchopneumonia.

OBJECT OF INVESTIGATION

The present investigation is an attempt to find a concomitant condition which could have the influence on the blood picture which Kissmeyer found. The line of attack was bacteriologic, as it was felt that the existence of a progressive subacute bacteremia of pyogenic organisms would explain the blood changes in which an eosinophilia with moderate leukocytosis was gradually replaced by a considerably greater leukocytosis with absence of eosinosphils and of adult polymorphonuclears.

To this end bacterial strains were isolated from unbroken skin during life and from the cardiac blood after death. The serologic relations of these strains were then determined in an endeavor to discover either a strain common to the two cases or the existence, post mortem, of a strain previously demonstrated to be present in an unbroken cutaneous lesion. It was felt to be a reasonable assumption that such a strain obtained post mortem would have been derived from the unbroken cutaneous lesion from which it had earlier been isolated. There can be no definite evidence as to when such a bacteremia arose. It is thought not to have occurred after the culture of the cutaneous lesion was made, as in the making of the culture the lesion was necessarily broken and therefore open to the introduction of organisms from the adjacent skin; also, in both of these cases the lesions from which the bulla fluid was cultured dried up soon after aspiration and could not be clearly defined at autopsy.

The criterion of identity of bacterial strains in this study was the reciprocal absorption of agglutinins produced in rabbits' serum by intravenous inoculation of a single strain.

EXAMINATIONS OF THE BLOOD

Total and differential white cell counts were made at irregular intervals in case 1 and daily in case 2. The blood smear used for the differential count was stained with Wright's stain, and not less than 200 cells were counted. There was a gradual diminution in the number of eosinophils throughout the course of the disease, with eventual disappearance of these forms within the week preceding death. The leukocytosis was, on the whole, progressive, with a sharp fall in the last hours of life. Adult polymorphonuclear leukocytes were rapidly replaced by immature forms, without, however, the production of a high proportion of polymorphonuclear cells; thus, the average total polymorphonuclear count (including immature and adult forms) was 62 per cent, with a maximum of 82 per cent and a minimum of 30 per cent. Myelocytes were constantly present in the last week of life to the extent of 3 per cent.

It is of interest to note that the monocyte count was generally high, with a definite increase in the last eight days of life; the average monocyte count was 13 per cent, with a maximum of 32 per cent and a minimum of 2 per cent

BACTERIOLOGIC EXAMINATIONS

The bacteriologic examinations comprised the isolation of organisms, fermentation reactions, production of agglutinins in rabbit serums, agglutination and cross-absorption reactions with agglutinating serums of the six strains of beta hemolytic streptococci obtained from the sources shown later.

The mediums and methods of work used in the study were those developed by Dr. Anna W. Williams [2] and her colleagues in their investigations of streptococci associated with scarlet fever. I employed them in an earlier investigation of streptococci.[3]

Brown [4] wrote the following description of the beta type of hemolytic streptococcus.

This type of appearance in blood agar may be described as a colony surrounded by a perfectly clear, colorless zone of hemolysis. There is no trace of discoloration,

2. Williams, A. W.: Streptococci in Relation to Man in Health and Disease, Baltimore, Williams & Wilkins Company, 1932, p. 46.

3. Grace, A. W., and Grace, F. B.: Researches in British Guiana, Memoir Series no. 3, London School of Hygiene and Tropical Medicine, 1931, p. 43.

4. Brown, J. H.: Use of Blood Agar for Study of Streptococci, monogr. no. 9, New York, Rockefeller Institute for Medical Research, 1919, p. 31.

and when viewed microscopically no corpuscles are seen in the medium surrounding the colony. The colony itself is greyish by transmitted or reflected light. The distinguishing characteristics of this type appear much earlier than do those of the alpha type and are often quite well developed in 18 hours at incubator temperature. In 48 hours the zones and colonies are a little larger than at the end of 24 hours, but no different qualitatively. The surface colonies are surrounded by similar zones.

Sources of Material.—Purulent bullae were sought in both cases and found to be decidedly infrequent. In case 1 only one unbroken purulent bulla was discovered, although the patient presented a large number of bullae which remained tense and sterile for several days during the early stages of the disease, and a still larger number of flaccid, thin-walled bullae of much shorter duration in the last week of life. The single unbroken purulent bulla was situated on the dorsum of the left foot and had been present for at least fourteen days before the contents were aspirated and cultured on Jan. 26, 1933, sixteen days before death. A beta hemolytic streptococcus in pure culture was obtained from this bulla, and the strain was marked "1." In case 2 bullae of any sort were uncommon, and those which arose quickly became purulent. Two unbroken purulent bullae were aspirated, one on the neck and another on the thumb, and each yielded a pure culture of a beta hemolytic streptococcus, the strains being marked "3" and "5," respectively. The former was obtained on February 18 and the latter on March 9, i. e., thirty-one days and twelve days, respectively, before death.

Cultures of the cardiac blood were made in both cases at autopsy, and a pure culture of the beta hemolytic streptococcus obtained in each case. The strain in case 1 was marked "2," and that in case 2, "6."

On Jan. 31, 1933, ten days before the patient died, a guinea-pig was inoculated intracardially with 1 cc. of blood serum from the patient in case 1 and died on March 5, 1933. Autopsy revealed no macroscopic pathologic involvement other than an abscess in the liver, which on culture yielded a pure growth of a beta hemolytic streptococcus. This strain was marked "4."

Mediums.—The following mediums were used: chocolate agar, sugar-free semisolid agar and phosphate broth.

The basis of the chocolate agar was a beef heart infusion sodium chloride broth to which 1.5 per cent agar had been added. The medium was melted, and when it had cooled to about 80 C., 4 per cent of citrated rabbit's blood was added. This chocolate-colored medium was sloped in tubes, and all of the stock cultures were kept on it and transplanted every four to six weeks.

The basis of the sugar-free semisolid agar was a beef heart infusion in which Bacterium coli had been allowed to grow over night. To the

autoclaved and filtered infusion were added sodium chloride, peptone and 0.5 per cent agar. This medium was used for sugar fermentation reactions after the addition of 2.5 cc. of citrated rabbit plasma, 0.5 cc. of Andrade's indicator and 10 cc. of 4 per cent solution of the requisite sugar to each 40 cc. of medium.

The basis of the phosphate broth was a beef heart infusion to which 2 per cent of hydrated disodium hydrogen phosphate ($Na_2HPO_4.12\,H_2O$) had been added. Before this medium was used for the daily subculture of strains for the preparation of agglutinating antigen, 0.1 per cent dextrose was added from a sterile solution. The medium should be made clear and free from sediment, and this task was greatly facilitated by heating in the Arnold sterilizer for at least two hours and filtering through double-thickness paper prior to the final autoclaving.

Isolation of Strains.—Primary cultures were made on poured plates, 5 per cent citrated rabbit blood being used in the case of bulla material; the addition of blood was unnecessary for the isolation of strains obtained from the cardiac blood. Colonies were fished from the poured plates and streaked on fresh plates of 5 per cent citrated rabbit blood agar. From the latter the strains were transferred to chocolate medium for stock.

Morphology.—The colonies on poured 5 per cent rabbit blood agar presented two different appearances: (1) single and biconvex, elliptic or circular, according to their position in the medium with respect to the surface of the plate, and (2) multiple and appearing as if composed of a conglomeration of two, three or four colonies identical with those just described.

The single and multiple colonies presented the same picture in streaked 5 per cent rabbit blood agar plates.

The texture of all of the strains in primary culture was smooth. Rough variants, however, developed in the preparation of agglutinating antigen (see later paragraph) and were separated from the smooth variant with which alone the bacteriologic work was done.

Fermentation Reactions.—The sugars used for these reactions were lactose, mannite and salicin, and the strains were named in accordance with Holman's classification.[5] The medium was inoculated from a chocolate agar culture of the strain to be tested and readings were taken every day for three days. The control strains used in these reactions were B. coli, Bacillus dysenteriae Flexner, and Streptococcus pyogenes for the lactose, mannite and salicin fermentations, respectively.

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5. Holman, W. L.: Classification of Streptococci, J. M. Research **34**:377, 1916.

Fermentation reactions showed that strains 1 and 2 belonged to the subacidus group, strains 3, 4 and 6 to the pyogenes group and strain 5 to the infrequens group.

Immunization of Rabbits.—All inoculations were made with cultures washed up from solid medium, and live organisms were used except in the case of strain 4, which was lethal to rabbits in very small doses. Good agglutinating serum was obtained with the latter strain by commencing inoculation with killed cultures. The number of inoculations required varied from five to thirteen, and the titer of the serums, from 1 : 1,600 to 1 : 12,800.

Preparation of Agglutinating Antigen.—The procedure has been described in a previous publication [3] thus:

> This is a homogeneous suspension of the organism in phosphate broth. Most strains are auto-agglutinable when first isolated and cannot therefore be used as antigens at that stage. By daily subculture into phosphate glucose broth some strains lose this property of auto-agglutination and grow in a homogeneous manner throughout the medium. The number of subcultures required to effect this change varies considerably with different organisms (and sometimes with the same organism) but it is usually around thirty. When this step is reached the stock standard antigen is prepared by growing the organism in bulk in phosphate glucose broth, centrifuging and washing three times in phosphate broth and suspending in phosphate broth. (The broth used for washing and suspending the organisms does not contain dextrose.) By the addition of 0.2 per cent formalin the suspension will keep for years and will retain its properties unchanged during that time.

Dose Factor.—As the criterion of the identity of the bacterial strains in this work was the reciprocal absorption of agglutinins, it was necessary first to determine the minimum volume of organisms required to absorb fully the agglutinins from a certain volume of the homologous serum. The quotient obtained by dividing the volume of serum by the volume of organisms used in this determination is called the dose factor for that particular serum. The experimental details for the estimation of the dose factor have been well set forth by Williams,[2] and an example of the results obtained therewith has been given by Grace and Grace.[3]

Agglutination.—Ten tubes were used in each agglutination test, which was carried out with eight dilutions of serum in phosphate broth. The first eight tubes contained 0.1 cc. of diluted serum together with 0.9 cc. of antigen, the final dilutions of serum being 1 : 100, 1 : 200, 1 : 400, 1 : 800, 1 : 1,600, 1 : 3,200, 1 : 6,400 and 1 : 12,800. One of the two remaining tubes contained agglutinating antigen alone and the other 0.1 cc. of phosphate broth mixed with 0.9 cc. of agglutinating antigen. These two tubes were antigen controls and were not expected to show agglutination.

Agglutination was carried out in the water bath at 55 C., and readings were made after from eighteen to twenty-four hours. It is generally possible to make readings at the end of three hours, but all results are based on the following day's readings.

Absorption of Agglutinins.—The strains to be tested were grown over night in dextrose phosphate broth, centrifugated and mixed 1 : 10 in antiserum, the unit volume being determined by the absorbing dose of the serum. After being thus exposed for eighteen hours to the absorbing action of the organisms, the serum was separated from the latter by centrifugation and was set up with its homologous antigen for agglutination as described in a preceding paragraph. It is obvious that if exposure to the organisms had removed all of the agglutinins from the serum, no agglutination would occur when the separated serum was mixed with its homologous antigen and, conversely, if the agglutinin content of the serum was unaffected by the exposure, the separated serum would agglutinate the homologous antigen to its maximum titer, i. e., just as if exposure to the organisms had never occurred.

The serums of strains 1, 2, 3 and 6 were exposed to the absorbing action of the organisms of strains 1, 2, 3, 5 and 6, a single serum being exposed to only one bacterial emulsion in each experiment. The agglutinating titers of the serums used in these experiments were, for strains 1, 2, 3 and 6, respectively, 1 : 3,200, 1 : 6,400, 1 : 3,200 and 1 : 12,800. The absorbing doses used for these serums were 1.5, 4, 1.5 and 1.5, respectively. The results of absorption showed that there was complete reciprocal absorption of agglutinins by strains 1 and 2 and also by strains 3 and 6. There was no absorption of agglutinins of either strain 2 or strain 3 by strain 5, nor was there reciprocal absorption between strains 2 and 3.

Williams [2] wrote, "We have come to the conclusion that the absorption of agglutinins test is a very exact and trustworthy test in a study of the identification of strains of hemolytic streptococci." We therefore are of the opinion that strain 1 is identical with strain 2, and that strain 3 is the same as strain 6, and also that the strains from these two cases of pemphigus are unrelated to each other.

COMMENT

In two cases of pemphigus, Kissmeyer's original observation of a progressive diminution in the number of eosinophil leukocytes with increasing activity of the clinical condition was confirmed.

In the same cases, also, bacterial strains which were obtained, in one instance sixteen days, and in the other thirty-one days, before death were found to be identical with strains obtained from the cardiac blood at autopsy.

Absorption of bacteria into the blood stream from the base of a purulent bulla is not an unlikely happening in a debilitated condition such as these patients showed at the time that the bulla fluids were examined. It is also known that bacteremia or toxemia resulting from the activity of pyogenic organisms can produce a total and differential white blood picture such as these patients showed and can also be associated with temperature charts similar to those obtained in these cases.

We are of the opinion, therefore, that there was a progressive, subacute bacteremia in these two cases, beginning at approximately the time of aspiration of the bullae, and that this bacteremia was responsible for the change in the leukocyte picture.

AN AID IN THE MANAGEMENT OF OCCUPATIONAL CONTACT DERMATITIS (DERMATITIS VENENATA)

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Dermatitis venenata, when of occupational origin, presents a serious economic problem, because it is necessary to change the patient's occupation to remove the causative agent. Certainly few patients can be relieved if they continue in contact with the substance to which the skin is sensitive.

A year ago experiments were begun with a compound having the composition:

	Per Cent
Ivory soap flakes	7.48
Glycerine, chemically pure	26.40
Sodium silicate	24.20
Tragacanth	0.21
Oil of lemons	0.16
Water	41.60

It can be applied as an invisible covering, and is soluble only in water. After finding that it was nonirritating to normal skin, it was used in cases of contact dermatitis of occupational origin.[1] From a series of cases six have been selected for report.

In the repair department of a glass factory six men complained of dermatitis. They showed typical dermatitis venenata of the hands and forearms, and one or two had involved the face by rubbing it with dirty gloves. All six gave positive reactions to patch tests with a substance with which they worked—a greasy deposit on one type of machine.[2] Reactions to all other patch tests were negative. Control

1. The reports of these experiments were submitted to the Council on Pharmacy and Chemistry of the American Medical Association to aid it in the consideration of a proprietary form, which the Council was obliged not to accept (J. A. M. A. **102**:211 [Jan. 20] 1934).

2. Chemical analysis showed the bulk of the deposit to consist of: oil, extracted with carbon tetrachloride, 34.5 per cent, and organic matter, 28.2 per cent. The material soluble in water comprised: saponified oil, 0.3 per cent; sulphates (as sodium sulphate, Na_2SO_4), 4.1 per cent; calcium, a trace; magnesium, a trace; iron, a trace, and chlorides (Cl_2), a trace. The percentages of material soluble in nitrohydrochloric acids were: lead oxide (PbO), 1.4; lead (Pb), 5.8; copper (as Cu O), 0.4; calcium oxide (CaO), 0.8; magnesium oxide (MgO), 0.5; iron (as Fe_2O_3), 6.1, and alumina (as Al_2O_3), 0.5. The percentages of material inslouble in acid were: silica (SiO_2), 11.3; iron (as Fe_2O_3), 0.4; alumina (as Al_2O_3), 0.5; calcium oxide (CaO), 0.8; magnesium oxide (MgoO), 0.3; copper oxide (CuO), 0.1; lead oxide (PbO), 0.3, and alaklis (as Na_2O), 0.4. The total percentage of constituents was 97.1. No arsenic, chromium or uranium was found. At least part of the acid-soluble iron exists as the metal.

tests on men with normal skin from the same department showed a negative reaction.

REPORT OF CASES

CASE 1.—W. H., 62 years old, employed in the glass factory for seventeen years, had never had a cutaneous involvement until about a week after he was transferred to the machine repair department. The condition had been present for six months and was becoming progressively worse. He had continued with his work.

On Oct. 23, 1933, the patient presented an eruption of the hands, forearms and face. The condition was worse on the flexor surface of the forearms. The skin in this area was lichenified, markedly excoriated and somewhat reddened with a dry eczema, and showed some areas covered with a fine scale. There was a markedly positive reaction to a patch test with the greasy deposit; reactions to all other patch tests were negative.

On October 26 calamine lotion with phenol and menthol was prescribed to be used when not at work. The patient was allowed to continue on the same job, but was instructed to use the protective compound while at work. In addition, on October 27, he was given one-fourth skin unit of roentgen rays, directed to the flexor surface of the forearms. He continued at work, and on November 6, two weeks after the start of treatment, examination revealed the condition entirely cured. On November 12, he decided, since he was entirely well, that he could discontinue the use of the compound. He reported on November 13 with a flare-up which subsided under treatment.

CASE 2.—W. L. R., 35 years old, showed contact dermatitis on the hands which had been present for three months. A patch test with the greasy deposit caused a positive reaction. He continued to work, using the protective compound. With little other local therapy the condition healed in nine days and has not recurred.

CASE 3.—T. S., 54 years old, had had contact dermatitis on the hands and forearms for seven weeks which appeared three days after starting a new job. The condition cleared following the application of the protective compound during work, and has not recurred.

CASE 4.—W. L., 31 years old, had had contact dermatitis on the hands and arms for five months. By using the protective compound during work the condition cleared up in nine days and has not recurred.

CASE 5.—L. K., 32 years old, had had contact dermatitis on the hands and forearms for five months. By using the protective compound during work the condition cleared in five days and has not recurred.

CASE 6.—P. M., 45 years old, had had contact dermatitis on the hands and forearms for eight months. The condition cleared in seven days by application of the compound during work, and there has been no recurrence.

From a large group of sensitized persons at a paint and varnish factory two men were selected. Both men had had severe dermatitis venenata for several years. During the past year, while using the protective compound and continuing their work with substances to which

they were sensitized, their skins remained normal. They were persuaded to discontinue the use of the compound on one area and to continue with their work.

CASE 7.—B. G. was sensitized to enamel thinner (mineral spirits and petroleum thinner), and his hand which was unprotected showed dermatitis venenata in three days. He continued on the same job, and with no local therapy except calamine lotion and application of the protective compound while at work the condition healed in four days.

CASE 8.—B. M. was sensitized to carbon black paint and mineral spirits, and his wrist showed dermatitis venenata on the unprotected area after twenty-four hours. The condition cleared under the same conditions as in case 7.

SUMMARY

Eight cases have been reported from a series of cases of dermatitis due to external contact of occupational origin.

It has been demonstrated that by the regular use of a protective film it is possible for many persons with dermatitis venenata to continue contact with the exciting factor with no harmful results.

NOTE.—Since writing this article I have observed that in very hot weather the same men are experiencing trouble because perspiration makes it difficult to keep the preparation on the skin. It is water-soluble and is of questionable value when the men are perspiring a great deal.

CUTANEOUS MANIFESTATIONS OF ARSENIC POISONING

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MANIFESTATIONS OF ARSENIC POISONING

This paper is concerned primarily with the cutaneous manifestations of arsenic poisoning. As is well known, arsenic may damage practically any organ or tissue in the body and may therefore indirectly account for many unusual clinical manifestations. Arsenical damage to nerve, neurocirculatory or endocrine tissue, for instance, may produce cutaneous symptoms not regarded as typical of arsenic poisoning.

Allergic Reactions: Erythematous and Exfoliative Eruptions.—The fact that after recovery a severe relapse may be induced by even minute quantities of arsenic speaks for the allergic nature of this symptom complex. In addition to the aforementioned lesions, the eruption may be urticarial, scarlatiniform, morbilliform, pityriasiform and lichenoid, of the planus or the spinulous type. Occasionally the eruption takes the form of a fixed erythema resembling an eruption due to phenolphthalein, flaring up after each exposure to arsenic, subsiding and again flaring up in the same location, usually accompanied by a fixed pigmentation and occasionally followed by cutaneous atrophy.

Arsenic seems to have photosensitizing properties; hence cutaneous eruptions tend to appear first and to be most pronounced on areas exposed to sunlight. Another symptom we have noted but not observed in the literature is a frequent and rather characteristic violaceous erythema with scaling extending laterally from the outer commissures of the eyes and often involving the lids. Among the last areas to heal are the moist flexual regions such as the axillae, crotch, umbilicus, postauricular folds and scalp.

Epidermal Hyperplasia: Arsenical Keratosis, Bowen's Precancerous Dermatosis and Epithelioma.—It has long been known that arsenic can cause epidermal hyperplasia. The most common cutaneous expression of this is the formation of arsenical keratoses which usually occur on

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the palms and soles but which may occur elsewhere. The arsenical origin of these keratoses is proved by repeated clinical observation and the demonstration by Osborne [1] of arsenic in the lesions.

It is unusual for arsenical keratoses of the palms and soles to degenerate into prickle cell epitheliomas. Yet keratoses of this sort, particularly those on the sides of the fingers or thumbs and on the backs of the hands, are prone to malignant changes. It is interesting to note that the first case of arsenical cancer was reported from this country by White [2] of Boston and verified later by Hutchinson [3] of England.

Evidence has recently been presented that multiple benign superficial epitheliomas and Bowen's precancerous dermatosis are due to arsenic.[4] The evidence is, briefly, as follows: 1. A great many recorded cases of multiple superficial epitheliomas had a history of the ingestion of arsenic. 2. The great majority of patients with multiple benign superficial epitheliomas present arsenical keratoses of the palms and soles. This is not an isolated finding, for cases of this sort (more than twenty) have been presented before practically every dermatologic society in this country; the diagnoses have been confirmed by such able dermatologists as Ormsby, Pusey, Senear and Wile. 3. In a case of multiple benign superficial epitheliomas accompanied by arsenical keratoses of the palms and soles, arsenic was demonstrated in one of the lesions by microchemical methods. Although no arsenic was found in the urine, the patient had worked about eight years in mines and smelters dealing with copper ores.

For almost a year we have made it a routine procedure to examine the palms and soles of every patient presenting a basal cell epithelioma. In addition, the urine of such patients has been examined for arsenic whenever possible. In the cases in which tissue is removed microchemical stains for arsenic are employed. Briefly, the results of these observations indicate the presence of small discrete punctate keratoses on the palms and soles in 75 per cent of forty-four such cases. In twelve of nineteen samples of urine from these patients quantities of arsenic were found, ranging from traces to appreciable amounts. In addition, six other patients of this group gave a history of prolonged exposure to arsenic through medication or occupation.

Miscellaneous Cutaneous Manifestations.—There are a number of disorders of obscure etiology in which arsenic may represent one of

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1. Osborne, E. D.: Microchemical Studies of Arsenic in Arsenical Pigmentation and Keratoses, Arch. Dermat. & Syph. **12**:773 (Dec.) 1925.

2. White, J. C.: Psoriasis, Verruca, Epithelioma: A Sequence, Am. J. M. Sc. **89**:163, 1885.

3. Hutchinson, Jonathan: Tr. Path. Soc., London **39**:352, 1888.

4. Anderson, N. P.: Bowen's Precancerous Dermatosis and Multiple Benign Superficial Epithelioma, Arch. Dermat. & Syph. **26**:1052 (Dec.) 1932.

several possible causes. Herpes zoster, while generally conceded to be due to an infection of the posterior spinal nerve root with a filtrable virus, may at times be precipitated by other causes, such as trauma and, occasionally, the toxic action of arsenic. Pigmentation is an occasional sequela of arsenic poisoning. Some cases of scleroderma [5] may represent an irreversible damage to the tissue brought about indirectly through the toxic effects of arsenic on the endocrine system. This explanation may account for occasional cases of typical alopecia areata with or without a generalized erythematous eruption, in which arsenic is present in the urine in pathologic amounts. Osler [6] described the clinical picture of erythromelalgia as a manifestation of arsenic poisoning, with the injury apparently involving the neurocirculatory mechanism. Paralysis, purpura, agranulocytosis, jaundice with acute yellow atrophy of the liver and nephritic edema represent some of the more serious toxic effects of arsenic.

SOURCES OF ARSENIC AND PREVALENCE OF ITS USE

A brief summary of some of the possible sources of arsenic poisoning illustrates the ubiquitous place of arsenic in modern life:

Medication.—Arsphenamine, potassium arsenate, tonics containing arsenic and the cacodylates and stovarsol (acetarsone), carbarsone and similar drugs used in the treatment of intestinal amebiasis.

Insecticides.—These include preparations for spraying fruits, vegetables, flowers and tobacco; they are sometimes placed on the ground to kill snails and slugs. It is legal to use an arsenical spray on deciduous fruits such as apples and pears, and while this is supposed to be removed prior to marketing, the consumer has no guarantee that the fruit is arsenic-free. In many communities it is illegal to use arsenical sprays on vegetables, but frequent reports of illness or death from eating poisoned vegetables is ample testimony to the fact that the laws are not observed. Asparagus,[7] lettuce, spinach, cabbage, beans, etc.,[8] have been traced as the source of arsenic poisoning. As long as any one can buy unlimited quantities of calcium arsenate and lead arsenate such occurrences may be expected. In a personal conversation, Dr. Everett Lain of Oklahoma City mentioned the case of a farmer who had arsenical dermatitis on the face and arms due to carrying loads of sprayed

5. Ayres, Samuel, Jr.: Scleroderma as a Possible Manifestation of Chronic Arsenic Poisoning, Arch. Dermat. & Syph. **2**:747 (Dec.) 1920.

6. Osler, William: Principles and Practice of Medicine, ed. 9, New York, D. Appleton and Company, 1921, p. 398.

7. Evans, W. V.: Arsenic Poisoning from Sprayed Asparagus, J. A. M. A. **99**:2202 (Dec. 24) 1932.

8. Medical News, Food Poisoning Reported (Arsenic in Fresh Mustard Greens), J. A. M. A. **97**:1971 (Dec. 26) 1931.

alfalfa to feed his cows. It does not require a great stretch of the imagination to understand how a baby might be poisoned by drinking milk from such a cow, and it would be next to impossible to obtain a history of the source of the poisoning. In a case reported by Myers and Throne [9] a physician who had suffered from arsenical dermatitis was able to reproduce the lesions by smoking a certain brand of cigarets which had been found to be contaminated by arsenic apparently derived from an arsenical spray used to kill worms on the growing tobacco leaves.

Contamination of Water.—Through questionnaires sent to the department of health in every state of the Union, replies were obtained from forty-four states. In no state had a routine test been made for arsenic in the drinking water, although springs contaminated with arsenic were known to exist in many of them, especially in proximity to mines. It has been shown that aluminum sulphate used for the purification of water in Illinois contains from one to three parts of arsenic in a million.[10] Arsenic is also contained in the amount of 0.02 part per million of a mineral water widely advertised in California for drinking purposes.[11]

Mines and Smelters.—Arsenic is present in the fumes and waste material from mines and smelters and is capable of contaminating the surrounding soil and the well water of the adjacent areas.[12]

Beverages (Cider, Wine,[13] *Beer* [14] *and Whisky).*—We recently saw a patient in whom a generalized exfoliative dermatitis developed after he had drunk a considerable amount of whisky of uncertain quality. Arsenic was found in the patient's urine and in the whisky.

Miscellaneous Foods.—These foods are cocoa, baking powder, egg-powder, self-raising flour, shell fish, dextrose products, cheap candy,

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9. Myers, C. M., and Throne, Binford: The Relation of Arsenic to Public Health, New York State J. Med. **29**:871 (July 15) 1929.

10. Bartow, E., and Bennett, A. N.: The Arsenic Content of Sulphate of Aluminum Used for Water Purification, Illinois State Water Survey, no. 13, Urbana, University of Illinois, 1916, p. 205.

11. Advertising Pamphlet of La Vida Mineral Water Company, 927 W. Second St., Los Angeles.

12. Hamilton, A.: Industrial Poisons in the United States, New York, The Macmillan Company, 1929, p. 210.

13. Mühlens, P.: Mass Poisoning of People on Board Merchant Vessel Following Consumption of French Wine, Deutsche med. Wchnschr. **38**:854 (May 27) 1932.

14. Brooks, H. G., and Roberts, Leslie: The Action of Arsenic on the Skin as Observed in the Recent Epidemic of Arsenical Beer Poisoning, Brit. J. Dermat. **13**:121, 1901.

certain proprietary baby foods, gelatin[15] and fish—especially fish liver.[16]

Wall-Paper, Colored Paper Used in Wrapping Bread and Confectionery and Cardboard.—Twenty or thirty years ago many cases of poisoning from wall-paper were reported. Laws were enacted to prevent the occurrence of arsenic in wall-paper, but as a proof that such laws are not always observed Halloran[17] recently reported poisoning from wall-paper. The arsenic may be present in papers of various colors and is liberated in the form of a highly poisonous gas, arsine, as the result of the growth on the paper of a mold belonging to the penicillium group.[18]

Cotton and Finished Cotton Cloth.—Calcium arsenate has been dusted over cotton fields and tomato farms by airplane to kill the boll-weevil. In 1928, 50,000 acres of cotton in Texas were so treated.[19]

Moth-Proofing Preparations and Chemicals Used Under Houses to Kill Termites.—In view of the recent popularity of these products it is to be anticipated that cases of arsenical poisoning from such sources will be forthcoming. One of us recently saw a case of contact dermatitis from arsenic in an employee of a termite company.

Certain Kinds of Paint and Electrotyping and Engraving Processes.

Certain Drugs in Which Arsenic is a Contaminant.—These include bismuth, antimony and potassium tartrate, sodium sulphate, glycerin, calamine lotion, sulphonated bitumen N. F. and dextrose. We have encountered several instances of patients who had recovered from arsenical dermatitis following treatment with neoarsphenamine, only to have a relapse after a single injection of a bismuth preparation. The bismuth preparation was found to contain an appreciable quantity of arsenic, and when we used a different product, which was found by test to be arsenic-free, no further trouble was encountered. This confirms an observation recently reported by Cannon,[20] that many widely used bismuth preparations contain amounts of arsenic varying from traces to 15 per cent.

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15. Myers, C. N., and Throne, Binford: Health Hazards from the Ingestion of Small Amounts of Metals, New York State J. Med. **29**:1258 (Oct. 15) 1929.

16. Sadolin, E.: The Occurrence of Arsenic in the Organism of Fishes, Biochem. Ztschr. **201**:323, 1928.

17. Halloran, C.: Dermatitis Exfoliativa Due to Arsenic in Wall Paper, Arch. Dermat. & Syph. **20**:303 (Sept.) 1929.

18. Foreign letter (London), J. A. M. A. **98**:828 (March 5) 1932.

19. Chacon, R. L.: Out of the Sky, Los Angeles Times, Farm & Garden Mag., Aug. 28, 1932, p. 5, quoting Texas Agriculture Experiment Station Bulletin no. 394, 1929.

20. Cannon, A. B., in discussion on Abramowitz, E. W.: Erythroderma from Bismuth, Arch. Dermat. & Syph. **26**:171 (July) 1932.

Miscellaneous Substances.—Among these are weed-killers, wood preservatives, fly-paper, rat and ant poisons, artificial flowers and painted toys.

There are probably other sources of arsenic poisoning which have not been mentioned, and new sources will probably arise through the development of new industries. From the aforementioned list, however, it will readily be seen that arsenic poisoning may exist in the complete absence of a history of exposure to arsenic. Many of these sources are so obscure, the effects of the poisoning are so insidious, and in some cases the retention of arsenic by the tissues is so prolonged that the origin is frequently unsuspected. In spite of these facts, one of the most frequent arguments against a case being due to arsenic is the statement that there was no history of exposure.

EVIDENCES OF ARSENIC POISONING

Under ideal conditions it would be desirable to offer at least seven evidences in the support of arsenic as an etiologic factor in a given case: (1) a history of exposure to arsenic, (2) the clinical appearance, (3) the presence of arsenic in the urine or hair, (4) the presence of arsenic in the tissue as revealed by microchemical stains, (5) a progressive diminution of arsenic in the urine together with clinical improvement under sodium thiosulphate therapy, (6) the recurrence of the symptoms on further contact with arsenic and (7) a positive patch test.

Unfortunately, it is impossible to satisfy all of these conditions. In spite of careful questioning, a history of exposure may be unobtainable. The clinical appearance may be at variance with the usual conception of an arsenical condition and yet have been produced through some indirect means such as an injury to the endocrine or neurocirculatory system. Arsenic may be present in the urine in apparently normal persons; yet it is not to be considered a normal urinary finding. In the same way diphtheria bacilli may be found in the throat of an apparently healthy person—a so-called carrier—but diphtheria bacilli do not constitute normal flora of the mouth. The finding of arsenic in the urine in measurable quantities should always arouse suspicion, and, in the presence of a compatible clinical picture with or without a history of exposure to arsenic, justifies treatment along these lines. A biopsy specimen stained for arsenic according to the microchemical method of Osborne [21] is valuable evidence in a debatable case. The failure of a given case to respond to sodium thiosulphate therapy does not necessarily argue against an arsenical etiology, since the clinical picture may be the result of irreversible changes, as in the case of damage to nerve tissue or endocrine glands. In view of the serious nature of arsenical poisoning

21. Osborne, E. D.: Microchemical Studies of Arsenic in Arsenical Dermatitis, Arch. Dermat. & Syph. **18**:37 (July) 1928.

one is not justified, except in experiments on animals, in deliberately attempting to reproduce the symptoms by administration of arsenic.

In cases of eruption due to the arsphenamines, the patch test is the method of choice in determining cutaneous hypersensitiveness. This method has been applied by Schoch [22] and others, who found that patients giving a positive reaction subsequently showed a cutaneous intolerance to arsphenamine. Equally important was the fact that patients with negative patch tests were able to tolerate subsequent arsphenamine cautiously administered without recurrences of arsphenamine dermatitis.

The Gutzeit test [23] is probably the best method for the determination of arsenic in the urine. The test depends on the development of a yellow to brownish color in a strip of sensitized paper as the result of contact with volatile arsenic gas or hydrogen arsenite ($As H_3$), which is liberated through the chemical interaction of dilute hydrochloric acid, zinc and urine which has been concentrated by partial evaporation. By comparison with color standards, the amount of arsenic present can be estimated according to the length of the band of color and its intensity. All of the reagents must be arsenic free, and to avoid the possibility of false reactions, a control should be run with each test. According to Howard,[24] the finding of arsenic in the urine is not abnormal unless it is in excess of 1/200 grain per gallon (0.0075 mg. per hundred cubic centimeters), although, as has been pointed out earlier, since many cases of arsenical dermatitis are dependent not on the quantity of arsenic but on the hypersensitiveness of the patient, it is easily possible for even more minute quantities than this to be of significance in such cases. Also, arsenic may be stored in the tissues for prolonged periods, so that it is possible for a patient to have arsenical keratoses as the result of exposure to arsenic many years previously. A patient of this sort may have arsenic in the tissue as revealed by special microchemical stains and still not show arsenic in the urine. Since numerous observations have revealed that the excretion of arsenic is temporarily increased after the injection of sodium thiosulphate,[25] it is always advisable, in order to cause the elimination of stored arsenic, to collect a twenty-four hour specimen of urine for an arsenic test after the preliminary intravenous injection of 1 Gm. of sodium thiosulphate. It

22. Schoch, A. G.: The Patch Test and the Element of Syringe Contamination in Arsphenamine Sensitization Dermatitis, J. A. M. A. **98**:1367 (April 16) 1932.

23. Autenrieth, Wilhelm: Detection of Poisons, ed. 4, translated by William H. Warren, Philadelphia, P. Blakiston's Son & Co., 1915, p. 233.

24. Howard, Tasker: Arsenic Poisoning, in Tice: Practice of Medicine, Hagerstown, Md., W. F. Prior Company, 1924, vol. 8, p. 86.

25. Althausen, T. L., and Gunther, L.: Acute Arsenic Poisoning; a Report of Seven Cases and a Study of Arsenic Excretion with Especial Reference to the Hair, J. A. M. A. **92**:2002 (June 15) 1929. Osborne (footnotes 1 and 21).

may be necessary from a medicolegal point of view to establish an arbitrary figure representing "abnormal" arsenic in the urine, but from a strictly clinical point of view such an amount has little meaning. It would be far safer to regard any measurable quantity of arsenic in the urine with suspicion.

SUMMARY OF PERSONAL CASES

The following series of eighty-five cases represent various types of cutaneous eruptions in which arsenic was regarded as a probable etiologic factor. These cases were seen in private practice, and in the dermatologic clinics of the White Memorial and Los Angeles County General Hospitals and the Santa Rita Clinic; all except about five have been encountered during the past two years.

The following were the proved or probable sources of arsenic in these cases: antisyphilitic treatment, fourteen cases; arsenical therapy for conditions other than syphilis, fourteen cases; bootleg whisky, one case; sprayed vegetables, two cases; exposure to arsenical sprays, three cases, and fumes from smelters, seven cases. In forty-four cases the source of arsenic was undetermined.

The following clinical manifestations were noted: erythematous, eczematoid or exfoliative dermatitis, more or less generalized, with or without edema, forty-one cases; a lichenoid, and later an erythematosquamous, dermatitis, one case; purplish-brown macules, with lichenoid and psoriasiform lesions, one case; generalized erythematous lesions with follicular accentuation, one case; diffuse scleroderma, three cases; the morphea type of scleroderma, two cases; alopecia areata, five cases; epithelioma, basal cell type, thirty-three cases; Bowen's precancerous dermatosis, one case, and multiple benign superficial epithelioma, three cases.

The scope of this paper does not permit a detailed analysis of each case, but several cases deserve special mention.

CASE 1.—Mr. H. A. had severe generalized exfoliative dermatitis lasting about three months, immediately following the application of a strong sulphur ointment, which he took for scabies while he was receiving injections of neoarsphenamine for syphilis. The dermatitis was not typical of a sulphur dermatitis, but was apparently precipitated by an external irritant.

CASE 2.—G. C., a woman, acquired a generalized scleroderma while receiving treatment with stovarsol for intestinal amebiasis. The patient died in about five months.

CASE 3.—Mrs. A. R. M. had scleroderma of a diffuse type involving the face, hands, arms and neck, with a chocolate-brown pigmentation. This appeared while she was under treatment for anemia with iron cacodylate. Prolonged administration of sodium thiosulphate resulted in only slight improvement.

CASE 4.—Mr. W. S. R. had had a generalized erythematovesicular and scaly eruption, especially on the face, for about six weeks. Arsenic was found in the

urine in a heavy trace (0.05 mg. per hundred cubic centimeters) and also in lettuce and cabbage obtained from the market at which he bought his vegetables. The eruption was entirely well after twenty-one intravenous injections of sodium thiosulphate.

CASE 5.—Mr. E. acquired a generalized erythematosquamous eruption a few days after drinking a large quantity of bootleg whisky. A trace of arsenic was found in a sample of whisky obtained from the same source and also in the patient's urine. The eruption was entirely gone after fourteen doses of sodium thiosulphate.

CASE 6.—Mr. P. C. S. had a severe generalized exfoliating, erythematous, oozing and edematous eruption of eight months' duration, although he had had previous less severe attacks at intervals for about twenty years. Most of his hair had come out during the previous few months. In addition to the eruption it was noted that there was atrophy of the interosseous muscles between the thumb and index finger of the right hand, and that the renal function as measured by the phenolsulphonphthalein output was 5 per cent in two hours and ten minutes. A large trace of arsenic was present in the urine (0.075 mg. per hundred cubic centimeters) which gradually diminished under sodium thiosulphate therapy, so that after twenty-five injections a test showed only 0.00025 mg. of arsenic per hundred cubic centimeters. Coincidentally with this laboratory evidence of improvement, the eruption almost cleared up and the hair grew in, but the interosseous atrophy remained. The phenolsulphonphthalein output increased to about 14 per cent within two hours, but the patient died about a year later from cardiorenal disease. The source of the arsenic in this case was never determined.

CASE 7.—Mr. C. G. presented the typical clinical picture of alopecia areata with discrete bald spots over the top of the scalp showing characteristic "exclamation point" hairs, in addition to a generalized exfoliative dermatitis, both conditions having developed during the treatment of syphilis with an arsenical preparation.

CASE 8.—B. K., aged 6½ months, had had a generalized erythematosquamous eruption since birth, with loss of hair. The mother had injections for anemia during pregnancy with no untoward symptoms. Arsenic was present in the baby's urine in a fairly heavy trace (0.0172 mg. per hundred cubic centimeters). The eruption had almost entirely cleared up in two months with the oral administration of sodium thiosulphate in water or milk.

CONCLUSIONS

1. Arsenic is widely employed in industry and agriculture and for domestic purposes.

2. Toxic reactions are not necessarily dependent on the amount of arsenic absorbed; minute amounts may cause a severe reaction in a hypersensitive patient.

3. Arsenic may produce a variety of symptoms depending on the organs or tissue injured.

4. Evidences of arsenic poisoning include: a history of the ingestion of arsenic; the clinical appearance; the presence of arsenic in the urine, hair or tissue; the progressive diminution of urinary arsenic, together

with clinical improvement under sodium thiosulphate therapy; a positive patch test (in some cases), and a recurrence of the eruption on further exposure to arsenic.

5. Pathologic changes of a degenerative or proliferative nature are not amenable to treatment with sodium thiosulphate, although the administration of this drug may prevent further damage.

6. The following cutaneous manifestations of arsenic poisoning were encountered in a series of cases: eczematous, erythematosquamous and exfoliative dermatitis; alopecia, of the diffuse and areata type; scleroderma, Bowen's precancerous dermatosis; arsenical keratosis of the palms and soles, and epitheliomas.

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DISCUSSION

Dr. Jacob C. Geiger, Director of Public Health, San Francisco: From the standpoint of a public health official, it might be well to elaborate on the seemingly increasing incidence of industrial exposure and consider it from the aspect of public health. Limited time does not allow a detailed discussion of all industries that may be regarded as presenting arsenic hazards, but the following will afford an idea of the wide range of possibilities: The manufacture of brass alloys, briquette work (this has been refuted), bronze powders and carrotting solutions; the manufacture of dyes and dyeing (this has declined somewhat in the United States during the last few years); the care of furs and skins; galvanizing (rare); the glass industry (arsenic is used as a decolorizing agent; cases are comparatively rare in spite of the fact that dust in glass works has been found to contain as much as 1.5 per cent white arsenic); the manufacture of dextrose (if the sulphuric acid used in treating the starch is made from arsenical pyrites); the mining of copper and zinc; paper hanging and the manufacture of wall-paper (owing to regulatory statutes and changes in the industry, this source of poisoning has been greatly reduced); the manufacture of shot (arsenic is used in the fusion process to harden the shot); the smelting of copper, gold, silver, nickel and zinc; spraying (cases have been reported from the use of paris green and lead arsenate in spraying fruit trees, etc.); the use of sheep dip as an insecticide; the eradication of the boll-weevil by the distribution of powdered arsenic over cotton fields (this last problem caused considerable trouble and was never completely solved); tanning; the manufacture of crude commercial hydrochloric acid; ballooning (the use of arseniurated hydrogen gas); the storage and transportation of coal, coke, gas and ferrosilicon over seas and waterways (owing to the decomposition on exposure to air, especially in the presence of moisture); the manufacture of garments (the use of aniline dyes containing arsenic); shoddy carbonizing (exposure to arseniurated hydrogen from acid used); the manufacture of soap (furriers not infrequently use soap containing arsenate of potassium or sodium in treating the fleshy part of hare and rabbit skin).

People employed in any of the aforementioned industries may reasonably be expected to be exposed, at least occasionally, to the arsenic hazard incident to their employment. A complete history of such industrial workers may prove to be of unlimited assistance to the practicing physician in the clinical diagnosis and treatment of patients. Departments of public health should be properly equipped with a bureau of industrial hygiene that can materially assist the physician by

making complete investigations of the particular plant in which the patient has been employed. Atmospheric tests, examinations of sweepings from benches, floors and similar places and, if necessary, careful examination of other employees will furnish the necessary information to the physician and allow the authorities to enforce the necessary regulations to bring the hazard to a minimum by the proper preventive measures.

The widespread use of arsenic compounds as sprays for the eradication of insects has been an agricultural problem of great significance. Aside from the industrial hazard to those employed in spraying, fruits, vegetables and other food commodities have required a great deal of the time and the attention of inspectors of horticulture and food in an endeavor to protect the consumer.

To demonstrate the ability of arsenic to cause serious trouble when those in charge of industrial establishments become careless, it might be well to recall a report made by Councilor Kremer, of Berlin, Germany, on Oct. 19, 1931. The poisoning occurred at the tin works in Wilhelmsburg; nine workers engaged in the transport of tin waste containing arsenic became ill and seven died. The source of the poisoning could be traced to the sprinkling of the waste with water to prevent dust and afterward storage in a warm place in the plant. The waste contained aluminum in small quantities, probably as aluminum arsenide, which yields arsenic when heated with water. Thus all metallic alloys which contain arsenic and aluminum together should be handled with caution, and the arsenic content of the air should be controlled with mercuric chloride paper.

Now that the breweries throughout our country are frantically laboring to produce sufficient beer to meet the demand, it would be fitting to conclude this discussion by mentioning the epidemic of arsenic poisoning in England and Wales in the latter part of 1900. At least six thousand persons were affected, seventy of whom died. Various conditions of the skin, such as erythemas, herpes, pigmentation and bullae, were reported as prevalent during the outbreak. Beer contaminated with arsenic was accountable for all of the symptoms, the arsenic being directly traced to the dextrose and invert sugar. From 0.008 to 0.131 per cent of arsenic was found in the dextrose, and from 0.02 to 0.062 per cent in the invert sugar estimated as arsenious oxide. The arsenic came from the sulphuric acid, which was used to hydrolyze the starch to make the dextrose and invert sugar; it contained from 1.4 to 2.6 per cent of arsenious oxide.

If the strictest methods of public health control were exercised over the industries mentioned in this discussion, there would still be sufficient hazard to warrant careful examinations of patients giving a history of exposure to arsenic.

AUTOLYSATE THERAPY FOR VERRUCA VULGARIS

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The literature reveals a wide disparity of opinion in regard to the etiology and methods of treatment of verrucae. Many authors consider the cause to be unknown; some believe that warts are caused by fungi or yeasts. Chavarria [1] isolated a mycotic organism. Bonjour [2] advanced a psychovasomotor theory of etiology and stated the belief that a psychically induced local vasomotor congestion will often cause the lesions to disappear. However, it has been conclusively demonstrated that by far the greatest proportion of verrucae are caused by a filtrable virus, the nature of the further pathogenicity of which is unknown.

As early as 1895 Jadassohn [3] suggested that the infectious nature of verrucae was not due to bacteria. In 1907, Ciuffo [4] stated the belief that a virus was the causal agent, and he succeeded in producing a verrucous lesion with autolysate material which had been passed through a Berkefeld filter. This lesion did not develop until after five months. Wile and Kingery,[5] however, demonstrated conclusively that a virus was the cause. They removed warts by curettement, ground them thoroughly with physiologic solution of sodium chloride in a mortar and passed this material through a Berkefeld filter, under negative pressure. After the sterility had been tested on several mediums, a small amount of the solution was injected into the skin. After a period of incubation of from four to eight weeks, papular lesions appeared. Some

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1. Chavarria, A. P.: Mycotic Verruca, Bull. Johns Hopkins Hosp. **41**:11 (July) 1927.

2. Bonjour, J.: Psycho-Vasomotor Theories in Etiology and Treatment of Warts, Ann. de dermat. et syph. **1**:209 (Feb.) 1930; Influence of Mind on Skin (Cure of Warts by Suggestion), Brit. J. Dermat. **4**:324 (Aug.) 1929.

3. Jadassohn, J.: Sind die Verrucae vulgaris übertragbar? Verhandl. d. deutsch. dermat. Gesellsch. **5**:497, 1896.

4. Ciuffo, G.: Gior. ital. d. mal. ven. **48**:17, 1907.

5. Wile, U., and Kingery, L.: Etiology of Warts, J. A. M. A. **73**:970 (Sept. 27) 1919.

of the lesions involuted, while others grew large. Although grossly the lesions were more papular than verrucous in appearance, their histologic structure was that of typical verrucae.

Kingery,[6] working further with this problem, was able to produce warts in the second generation. Creech,[7] in experimentations with cattle, produced typical lesions in fifteen of twenty-two calves. He used filtered and unfiltered material from cattle. Soule [8] was unable to produce warts in man with the virus of cattle material, but Schultz [9] succeeded in transmitting cattle warts to man.

Many forms of therapy have been advocated for the cure of warts. The influence of suggestion is well known. Recent studies by Bloch [10] indicate that 84 per cent of flat warts and 50 per cent of common warts can be cured by a procedure that is pure suggestion. Protein shock has been advocated. Duprat [11] and Dietel [12] used injections of milk, while Sézary [13] used hemotherapy with benefit. Sutton [14] reported satisfactory results with sulpharsphenamine, although arsphenamine seems to be better adapted to this type of therapy. Lurie [15] successfully treated palmar and plantar warts with intramuscular injections of bismuth salicylate. Yellow mercurous iodide has long been a favorite means of treatment.

For the more resistant types of warts, particularly those adjacent to the nail-bed, the plantar wart and the large condyloma, roentgen rays,

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6. Kingery, L. B.: Production of Warts in the Second Generation, J. A. M. A. **76**:441 (Feb. 12) 1921.

7. Creech, G. T.: Experimental Studies of Etiology of Common Warts in Cattle, J. Agric. Research **39**:737 (Nov. 15) 1929.

8. Soule, M. H.: Experimental Inoculation of Man and Guinea Pigs with the Virus of Cattle Warts, Proc. Soc. Exper. Biol. & Med. **28**:1027 (June) 1931.

9. Schultz, F.: Experimentelle Uebertragung von Verrucae vulgaris vom Rinde auf dem Menschen mit ausserordentlich langer Inkubation, Deutsche med. Wchnschr. **34**:423, 1908.

10. Bloch, B.: Therapy of Warts by Suggestion, Klin. Wchnschr. **6**:2271 (Nov. 26) 1927.

11. Duprat, H.: Treatment of Warts with Milk Injections, J. de méd. de Bordeaux **107**:551 (July 10) 1930.

12. Dietel, F.: Treatment of Verrucae with Milk, Deutsche med. Wchnschr. **54**:2101 (Dec. 14) 1928.

13. Sézary: Hemotherapy in Treatment of Verrucae, Bull. Soc. franç. de dermat. et syph. **35**:839 (Nov.) 1928.

14. Sutton, R. L.: Sulpharsphenamine in the Treatment of Warts, J. A. M. A. **87**:1127 (Oct. 2) 1926.

15. Lurie, S. A.: Verrucae Vulgares (Palmar and Plantar): Treatment by Intramuscular Injections of Bismuth Salicylate, Arch. Dermat. & Syph. **26**:95 (July) 1932.

radium and various other methods of local destruction have become the treatments of choice.

When there are a large number of lesions which have resisted ordinary measures, local destruction is tedious and difficult and is apt to leave scarring. Roentgen therapy, with protection of the uninvolved areas by bismuth paste, is at times impossible or impracticable, and the method proposed by Biberstein, if successful, would seem to be ideal. In 1925, Biberstein[16] reported the immune treatment of warts and condylomas. In a series of one hundred and thirty-nine patients he obtained cure in 75 per cent with an autolysate prepared from the warts of each patient. From ten to thirty biweekly injections were given.

Accordingly, ten patients with a large number of scattered lesions and two patients with plantar lesions were selected for autolysate vaccine therapy. The method used was that of Biberstein, modified somewhat by the technic of Soule.

TECHNIC

1. Clean the warts with equal parts of alcohol ether and physiologic solution of sodium chloride.
2. Inject 1 per cent procaine hydrochloride, U. S. P.
3. Cut off the warts.
4. Grind them up in a mortar with a physiologic solution of sodium chloride.
5. Let the mixture stand at room temperature for twenty-four hours.
6. Pass it through a Berkefeld filter.
7. Heat it to 50 C. for one hour.
8. Add phenol so as to make a 0.5 per cent solution.
9. Give twice weekly in doses of from 0.2 to 0.4 cc. (from two to thirty injections, as indicated).

RESULTS

The results obtained with this method were frankly discouraging. A complete cure was effected in only two cases, which were of the common type and occurred in children; it is impossible to state what part suggestion played. To counteract the well known effects of suggestion, every patient was discouraged as much as possible and was told that the treatment was new and untried and not likely to work. In four other cases the lesions regressed slightly in size, but failed to disappear, and in one of the cases new lesions appeared while the patient was under treatment. In two cases local flare-ups appeared around the lesions, following the injections of the autolysate at a distant site. As

16. Biberstein, H.: Immune Treatment of Warts and Condylomas, Klin. Wchnschr. **4**:638 (April 2) 1925.

this reaction has also been observed after injections of a bismuth preparation, its specificity remains questionable. In five cases injections were made around the larger lesions. This had no appreciable effect, and any immunity which may have developed was certainly not local and cellular. At least ten biweekly injections were given to each patient. One patient received twenty injections without improvement and then disappeared from view. The vaccine was given intradermally in all cases. There was no change in the appearance of two plantar warts after ten injections of autolysate. The four other patients were unimproved by therapy.

COMMENT

It is difficult to explain the discrepancy between the results reported by Biberstein [16] and those obtained in the present series. The only difference in method was the fact that he did not pass his material through a Berkefeld filter. In my cases an effort was made to discourage suggestion. The larger cellular particles were, of course, unable to pass through the filter. It may be that the foreign protein effect of these particles favorably influenced Biberstein's results, for Stokes [17] pointed out that even the injection into the skin of its own finely divided substance affects its local immunologic state. It is true, however, that vaccines prepared from viruses have not, as a general rule, proved successful. Smallpox and rabies are the only notable exceptions, and here again the vaccine is preventive rather than curative.

The effect of heating the autolysate for one hour at 50 C. was only an attenuating one, I believe. Filtrable viruses are not usually killed until a temperature well above 50 C. has been reached. In one instance a flat papular lesion, similar to those described by Wile and Kingery,[5] developed at the site of an intradermal injection of vaccine. As this was the only new lesion which developed, it seems highly probable that the virus had been sufficiently attenuated to warrant its use as a vaccine.

SUMMARY

1. A wart autolysate was prepared, after the methods suggested by Biberstein [16] and Soule.[8]

2. Twelve patients were treated, each receiving at least ten injections of autolysate.

3. In only two cases was cure effected, and here the specific immunologic action was questionable.

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17. Stokes, J. H.: Studies on Intradermal Sensitization (I and II), J. Infect Dis. **18**:402 and 415, 1916.

4. The immune treatment of warts was generally ineffective in this series.

NOTE.—Since this article was submitted for publication the work of Allington has appeared (ARCH. DERMAT. & SYPH. **29**:687 [May] 1934). He concluded that the effect of intramuscular injections of sulpharsphenamine in the treatment of verruca was purely one of suggestion.

COLLOIDAL MERCURY SULPHIDE IN THE TREATMENT OF SYPHILIS

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In 1926, colloidal mercury sulphide was reported to possess excellent healing and definite sterilizing properties in syphilis produced experimentally in rabbits and was deemed worthy of an adequate experimental study in the therapeusis of syphilis in man.[1] The drug was also found to be relatively nontoxic for the rabbit, as its maximum tolerated and minimum lethal doses for this species were 30 and 40 mg. per kilogram, respectively.[2] In 1931, Freeman, Taylor and White [3] reviewed the clinical literature relative to the results obtained up to that time in the treatment of syphilis in man with colloidal mercury sulphide. Previous to their paper, favorable results in two patients with secondary syphilis and twenty-six patients with late, latent and so-called Wassermann-fast syphilis had been reported, with courses varying from 6 to 16 intramuscular or intravenous injections of the drug. Freeman, Taylor and White gave a total of 25,000 injections intramuscularly to one thousand patients with latent and Wassermann-fast syphilis. They found colloidal mercury sulphide unusually efficacious in rendering the Wassermann reaction negative and in improving the subjective manifestations of the disease. The drug was well tolerated locally, and the incidence of mercurialism was unusually low. Gennerich [4] reported the exclusive use of colloidal mercury sulphide in the treatment of three patients with primary, five with secondary and three with relapse of secondary and latent syphilis, as well as in one patient with aortitis. He also treated another group of sixty-two patients in various stages of syphilis with arsphenamine and colloidal mercury sulphide in alternate

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1. Wakerlin, G. E.: Therapeutic Action of Colloidal Mercury Sulphide (Hille) and of Other Colloidal Heavy Metal Sulphides in Syphilis Experimentally Produced in Rabbits, Arch. Dermat. & Syph. **19**:878 (June) 1929.

2. Wakerlin, G. E., and Eiseman, C.: The Toxicity of the Colloidal Sulphides of Some Heavy Metals for Rabbits, Am. J. Syph. **12**:384 (July) 1928.

3. Freeman, M. J.; Taylor, G. G., and White, C.: Experiences with Colloidal Mercury Sulphide (Hille) in the Treatment of Syphilis, Am. J. Syph. **15**: 207 (April) 1931.

4. Gennerich, W.: Colloidal Mercury Sulphide in the Treatment of Syphilis, Am. J. Syph. **16**:198 (April) 1932.

courses. Gennerich administered the drug intravenously to almost all of his patients. He found colloidal mercury sulphide effective against the clinical and serologic manifestations of syphilis and recommended the drug highly in combination with the arsphenamines. The incidence of evidences of mercurialism was practically nil. Lawless [5] recently reported favorable results from the intramuscular and intravenous use of colloidal mercury sulphide in a group of forty-two patients. His series included one primary and four secondary cases. The Council on Pharmacy and Chemistry of the American Medical Association has accepted the drug for intramuscular use in the treatment of syphilis.[6]

Thus far, therefore, the therapeutic value of colloidal mercury sulphide alone in early (primary and secondary) syphilis has been studied in only fifteen patients. This investigation was undertaken in part to increase the available data relative to the antisyphilitic power of the drug as gaged by its healing action in primary and secondary syphilis. In addition, a group of patients with later manifestations of the disease were also included.

Colloidal mercury sulphide is a 2 per cent solution of mercury sulphide in colloidal form, prepared by the condensation method. It is physiologically isotonic and is stabilized by a hydrolyzed protein solution. The solution is brownish black. As solutions of the drug under observation in my laboratory for seven years remained completely colloidal, the stability of the preparation appeared sufficient to warrant its use intravenously. As stated earlier, the drug has already been used intravenously in man. This work was also undertaken, therefore, to corroborate the availability of the preparation for intravenous therapy.

METHOD

Thirty-five patients with syphilis were treated with colloidal mercury sulphide.[7]

The patients with early (primary and secondary) syphilis were given a course of 2 injections of 60 mg. (3 cc. of the 2 per cent solution) of colloidal mercury sulphide a week for twelve weeks (a total of 24 injections). They were then given a course of neoarsphenamine and subsequently another course of 12 injections of 60 mg. of colloidal mercury sulphide at weekly intervals. Following this, they

5. Lawless, T. K.: Colloidal Mercuric Sulphide, Arch. Dermat. & Syph. **28**: 475 (Oct.) 1933.

6. Council on Pharmacy and Chemistry: Report on Solution Colloidal Mercury Sulphide-Hille, J. A. M. A. **101**:366 (July 29) 1933.

7. Dr. C. B. Willmott rendered patients in the clinic for syphilitic diseases in the outpatient department of the Louisville City Hospital available for this study. Five of them discontinued treatment at too early a date to be included in this report. Of the remaining thirty patients (twenty-three male and seven female patients) seven had primary, nine secondary, four late, eight latent and two congenital syphilis. In all, the thirty-five patients received a total of 826 intravenous injections of the drug.

were subjected to alternate courses of neoarsphenamine and bismuth and mercury preparations, as indicated. The treatment in all cases was continuous. The patients with late, latent and congenital syphilis were given a course of 24 injections of 60 mg. of the drug at weekly intervals. In this group, subsequent treatment with neoarsphenamine and bismuth and mercury preparations was given when indicated. All of the patients with early syphilis and three of those with late syphilis had received no treatment prior to being given colloidal mercury sulphide. One patient with late syphilis and those with latent and congenital syphilis had received other treatment previous to colloidal mercury sulphide therapy. The injections of colloidal mercury sulphide were given intravenously. The patients were examined clinically at the time of each treatment and serologically by means of the Wassermann test of the blood[8] after each sixth treatment with colloidal mercury sulphide. Urinalyses were made after each 4 injections of the drug. Eight of the patients were subjected to examinations of the spinal fluid after therapy with colloidal mercury sulphide.

RESULTS

Primary Syphilis.—The effect of the drug on the spirochete content of the chancre was studied in six of the seven patients with primary syphilis. A dose of 60 mg. of colloidal mercury sulphide intravenously in two cases resulted in a diminution of the number of organisms, but not in their complete disappearance, twenty-four, forty-eight and seventy-two hours later. A dose of 120 mg. in the other four patients likewise caused only a decrease in the number of actively motile organisms found on dark-field examination, twenty-four, forty-eight, seventy-two and ninety-six hours subsequently. On an average, the seven chancres healed in sixteen days with 4 or more treatments, the minima and maxima being ten and twenty-one days and 3 and 6 treatments, respectively. Five of the patients were seropositive, and two seronegative. In the former, the Wassermann reaction of the blood became negative within seventy-four days with 16 treatments; the minima and maxima were forty-nine and a hundred and fifteen days and 12 and 18 treatments, respectively. The reaction remained negative during subsequent treatment and observation for periods ranging from four to eighteen months. The two patients with primary syphilis and a negative serologic reaction showed consistently negative Wassermann reactions during treatment with 20 and 22 injections of colloidal mercury sulphide over periods of eighty and a hundred and six days, respectively, after which they disappeared from the clinic. In no case was there a relapse of the primary lesion or an appearance of secondary manifestations during the periods of observation.

Secondary Syphilis.—The healing periods of the rash for the nine patients with secondary syphilis averaged thirteen days with a minimum

8. The Wassermann tests were performed by the serologic laboratory of the Louisville City Hospital, Dr. A. J. Miller, director.

of seven and a maximum of eighteen days, respectively. The average number of injections of colloidal mercury sulphide required was 3 plus, with a minimum of 2 and a maximum of 7 treatments. Five of the patients presented chancres which required an average of twenty-seven days and 7 treatments for complete healing, with limits of seventeen and forty-six days and 5 and 12 treatments. Three of the patients showed mucous patches which healed in approximately fifteen days with 4 treatments. The condylomas of one patient required forty-two days and 10 treatments with colloidal mercury sulphide for healing. The Wassermann reactions of five of the nine patients became negative within an average of seventy-six days and 18 treatments; the minima and maxima were forty-six and a hundred and eight days and 12 and 24 treatments, respectively. The reactions remained negative during subsequent treatment and observation periods ranging from nine to eighteen months. In four of the patients, the Wassermann reaction of the blood was still 4 plus after the first course of 24 injections of colloidal mercury sulphide. Two of the patients discontinued treatment at this time. The reaction of the third patient became negative after a subsequent course of 12 weekly injections of neoarsphenamine. That of the fourth patient became 1 plus after neoarsphenamine therapy, and negative after an additional course of 12 weekly injections of colloidal mercury sulphide. Both reactions were still negative three months later with continued treatment. None of the patients with secondary syphilis showed signs of clinical relapse during treatment with colloidal mercury sulphide or subsequently while under treatment with alternate courses of neoarsphenamine and mercury and bismuth compounds. Three patients in this group showed a negative reaction of the spinal fluid after 36 treatments with colloidal mercury sulphide and 24 treatments with neoarsphenamine.

Late Syphilis.—Four patients with various manifestations of late syphilis of approximately twenty years' duration were treated with a course of 24 weekly injections of colloidal mercury sulphide. One of the patients had received previous treatment; the others had not. The former presented syphilitic aortitis, hypertension and mild cardiac insufficiency without congestion, for which he had received two courses of bismuth salicylate and one of mercury salicylate without particular benefit. He was measurably improved subjectively by a course of colloidal mercury sulphide, although the Wassermann reaction remained 4 plus. Of the three other patients, one showed syphilitic aortitis, the symptoms of which were relieved during the course of treatment with colloidal mercury sulphide and for five months subsequently. The Wassermann reaction decreased to 2 plus at the end of treatment but was again 4 plus five months later. The second patient presented a

large gumma of the leg, an asymptomatic dementia paralytica (positive reaction of the spinal fluid) and a complicating diabetes mellitus of moderate grade. Despite refusal to permit his diabetes to be controlled the patient's gumma healed in a hundred and forty days with 20 injections of colloidal mercury sulphide. The Wassermann reactions of the blood and spinal fluid were still positive seven months later after alternate courses of neoarsphenamine and colloidal mercury sulphide. Eighteen months from the beginning of the treatment, however, the Wassermann reaction of the blood became negative, the patient having received a total of 48 injections of colloidal mercury sulphide and 12 of neoarsphenamine during this period. The third patient had amyotrophic lateral sclerosis with changes in the spinal fluid characteristic of dementia paralytica. During the course of treatment with colloidal mercury sulphide, there was slight progress of the atrophic process. At the end of the course, the Wassermann reaction of the blood had changed from 4 plus to 1 plus, but the findings in the spinal fluid remained unchanged.

Latent Syphilis.—Eight patients with latent syphilis were given a course of 24 weekly injections of colloidal mercury sulphide. In two of these patients the history of infection dated back four years. Each of the patients had just completed a regimen of treatment consisting of one course of treatment with neoarsphenamine and one with mercury salicylate. After 12 treatments with colloidal mercury sulphide, the Wassermann reaction changed from 4 plus to negative in both of them and remained negative during a subsequent treatment and observation period of ten months. The spinal fluid of one of these patients was normal after the first 24 treatments with colloidal mercury sulphide. The other 6 patients gave a history of syphilis of from ten to twenty-five years' duration with approximately four years of more or less regular treatment with neoarsphenamine and bismuth and mercury compounds. At the end of the course of colloidal mercury sulphide therapy, the Wassermann reaction in each instance was still 4 plus. The spinal fluids of three of the patients were normal on the completion of the course of treatment with colloidal mercury sulphide.

Congenital Syphilis.—Two young adults with asymptomatic congenital syphilis who had received three years of treatment with alternating courses of neoarsphenamine and bismuth and mercury compounds but who still presented 4 plus Wassermann reactions of the blood were given a course of 24 weekly injections of colloidal mercury sulphide. The Wassermann reactions were still 4 plus at the completion of the course of treatment.

Tolerance.—There was no immediate or delayed reaction following any of the approximately 800 intravenous injections of colloidal mer-

cury sulphide administered to thirty-five patients. On the other hand, when fifteen of the patients were subsequently given neoarsphenamine, six of them complained of one or more mild reactions to the arsenical. The injections of colloidal mercury sulphide were given without regard to the state of alimentation in the gastro-intestinal tract. There was no evidence of local irritation or thrombosis at the site of the injection, and the same vein was frequently employed for all of the injections of colloidal mercury sulphide given to a particular patient. On being questioned, three of the patients stated that they felt a slight, transient, tingling sensation as the drug traversed the upper part of the arm. In two of them, a faulty injection placed a small quantity of the drug in the subcutaneous tissues. There were no untoward results except a bluish-black discoloration in the antecubital fossa which gradually lessened but did not completely disappear in ten months.

Seven of the thirty patients who remained under treatment with colloidal mercury sulphide complained of tenderness of the gums. In each instance, the tenderness was accompanied by hyperemia of the gingiva with slight or no ptyalism. The stomatitis occurred variously between the fourth and the fourteenth treatments with the drug. In five of the patients, Vincent's angina was found to be present, and in two of them, pyorrhea as well. The institution of local treatment for the Vincent's angina and reemphasis on the necessity for strict oral hygiene in each of the seven patients resulted in a relatively prompt subsidence of the stomatitis. In no instance was more than 1 treatment with colloidal mercury sulphide postponed in these patients. No further evidence of stomatitis occurred during subsequent treatment with the drug. At no time did patients under treatment with colloidal mercury sulphide show any of the overt signs of irritation of the gastro-intestinal tract, such as nausea, diarrhea or abdominal pain.

As already stated, the effect of colloidal mercury sulphide on renal function was studied only by repeated urinalyses in each patient. In twenty-three of the patients the urine remained consistently normal. In four patients one or two urinalyses showed a trace of albumin and an occasional cast during the course of treatment, but the urine was again normal at the end of colloidal mercury sulphide therapy. Three patients of the latter group were among the seven who showed evidences of mild stomatitis. One of the remaining three patients showed a 2 plus albumin reaction at the beginning of treatment. During the first course of 24 injections of colloidal mercury sulphide, the quantity of albumin varied from a trace to 2 plus, with an occasional cast. At the end of the second course of 12 injections of the drug, however, the test for albumin gave negative results, and the microscopic observations were normal. The second patient showed albumin (2 plus) and an occasional

cast before the first treatment. These observations persisted throughout his course of 24 injections. The third patient showed an albumin reaction of 2 plus at the beginning of treatment. The quantities of albumin during 36 treatments with colloidal mercury sulphide varied from a trace to 2 plus. The microscopic observations were consistently normal.

COMMENT

As is obvious, treatment with colloidal mercury sulphide was followed by the use of neoarsphenamine in order that no therapeutic injustice should be done to the patients with early syphilis subjected to this investigation. Certainly there is no more satisfactory way of gaging the healing powers of a new antisyphilitic clinically than to use the drug exclusively for a reasonable period of time in patients with early syphilis. Though the series of patients treated was small, the results appear definite enough to permit the drawing of certain conclusions.

The spirocheticidal action of colloidal mercury sulphide, as measured by its effect on the organisms present in the chancres of six patients, is definitely inferior to that of the arsphenamines. Gennerich[4] and Lawless[5] also reported similar results. In a dosage of 120 mg., which is roughly comparable to 0.9 gm. of neoarsphenamine on the basis of studies of toxicity in rabbits, colloidal mercury sulphide failed to clear the chancres completely of Spirochaeta pallida, as demonstrated by daily dark-field examinations for four days subsequent to the injection. Consequently, as is true of other mercury and bismuth compounds, colloidal mercury sulphide, from a public health standpoint, lacks the value of the arsphenamines in rapidly rendering patients with early syphilis noninfectious.

Colloidal mercury sulphide showed a favorable effect on the lesions and serologic changes of primary and secondary syphilis only slightly, if at all, inferior to that of the arsphenamines in approximately comparable doses. There were no instances of relapse while this group of sixteen patients was receiving colloidal mercury sulphide therapy. The drug, therefore, possesses an antisyphilitic potency in early syphilis in man which is more or less comparable to that previously demonstrated for it in experimental syphilis in rabbits.[1] The small group of four patients with various manifestations of late syphilis showed a favorable response to the drug. The patient with amyotrophic lateral sclerosis would probably have progressed slightly under any form of antisyphilitic therapy. The two patients with early latent syphilis evidenced an excellent serologic response to colloidal mercury sulphide. The six Wassermann-fast patients with latent syphilis of long standing, who had previously received approximately four years of treatment with neoarsphenamine and bismuth and mercury compounds, were purposely selected in order to give the reported effectiveness of the drug in this

type of patient the severest test possible. In view of the persistence of the positive Wassermann reactions in these patients in the face of prolonged therapy with standard antisyphilitics, the inability of colloidal mercury sulphide to produce a serologic reversal in these cases should not be held against the drug. This statement is also applicable to the lack of serologic results in the two patients with congenital syphilis.

The small number of examinations of the spinal fluid allows no definite conclusions, but indicates that colloidal mercury sulphide therapy influences the changes in the spinal fluid neither favorably nor unfavorably. Gennerich[4] reported similar results.

Colloidal mercury sulphide was found to be unusually well tolerated. The apparent indefinite colloidal stability of the solution and the complete absence of local and systemic reactions when the drug was administered intravenously stand in marked contrast to the earlier experience of physicians with certain colloidal preparations. The intravenous mode of administration appears to be entirely safe, as Gennerich[4] and others have noted. The fact that the drug is suitable for intravenous or intramuscular use enhances its value as a therapeutic agent.

Freeman, Taylor and White[3] and Gennerich[4] have already commented on the low incidence and the mild nature of the evidences of mercurialism also observed in this investigation with a definitely therapeutic range of dosage of the drug. Undoubtedly the incidence of transient, mild stomatitis during the course of treatment with colloidal mercury sulphide would have been materially reduced if the oral hygiene of the patients had been better, for stomatitis developed in only one patient whose gums and teeth were in good condition at the onset of treatment. In the dosages employed the drug also showed a minimal nephrotoxic effect. Indeed, the originally abnormal urinary condition in one patient disappeared during treatment with colloidal mercury sulphide, suggesting that the patient had mild syphilitic nephritis which was healed by treatment.

The results show that an adult patient will readily tolerate a total of 36 injections of 60 mg. (3 cc. of the 2 per cent solution) or 2,160 mg. of colloidal mercury sulphide administered over a period of from nine to eleven months. This is approximately equivalent to the maximum tolerated dose of the drug for the rabbit administered in a single intravenous injection.[2] Eight of the patients receiving this amount of the drug have been under observation for subsequent periods ranging from six to eleven months without the development of delayed evidences of mercurialism. At this level of dosage, therefore, colloidal mercury sulphide is well tolerated, despite the slow urinary excretory rate reported for it.[9]

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9. Sollmann, T.: Manual of Pharmacology, ed. 4, Philadelphia, W. B. Saunders Company, 1932, p. 1084.

The relatively high antisyphilitic potency and the minimal toxicologic properties of colloidal mercury sulphide in the dosage employed recommend it highly for use in the treatment of syphilis whenever a mercury or bismuth compound is indicated. In the usual routine treatment of syphilis with alternating courses of one of the arsphenamines and bismuth and mercury compounds, a series of 12 or 15 weekly injections of 60 mg. of colloidal mercury sulphide, which may be repeated one or more times during the therapy, will insure adequate mercurial action against the disease. Furthermore, patients with early syphilis who tolerate the arsphenamines poorly may be given an initial course of 24 semiweekly injections of 60 mg. (3 cc.) or 12 weekly injections of 120 mg. (6 cc.) of the drug, with the assurance that it will produce prompt healing of the lesions and a satisfactory effect on the Wassermann reaction. In such cases, however, the inferior spirocheticidal action of colloidal mercury sulphide as compared with that of the arsphenamines must be borne in mind. The injections may be given intravenously, as no contraindication to this mode of administration was encountered. However, the intramuscular route may be employed if desired, as Freeman, Taylor and White[3] have demonstrated the effectiveness of the drug so administered.

SUMMARY

1. A series of thirty syphilitic patients in various stages of the disease were given a total of approximately 800 intravenous injections of colloidal mercury sulphide in order to test the antisyphilitic potency of the drug and its suitability for intravenous use.

2. The patients with early syphilis (seven primary and nine secondary cases) were given an initial course of 24 semiweekly injections of 60 mg. (3 cc. of the 2 per cent solution) of the drug, followed by alternate courses of neoarsphenamine, colloidal mercury sulphide and a bismuth compound. The patients with more advanced forms of the disease (four late, eight latent and two congenital cases) received a course of 24 weekly injections of 60 mg. of the drug followed by the combination therapy indicated.

3 From the standpoint of toxicologic studies of rabbits, colloidal mercury sulphide in comparable dosage was found to be inferior to the arsphenamines as a spirocheticidal agent for clearing the chancres of organisms.

4. Colloidal mercury sulphide showed a favorable effect on the lesions and serologic changes of primary and secondary syphilis which was only slightly, if at all, inferior to that of the arsphenamines. The patients with clinical manifestations of late syphilis also responded favorably to the drug. The serologic response to colloidal mercury sulphide therapy was excellent in early latent syphilis, although the drug

was ineffective in reversing the positive Wassermann reactions in long-standing latent or congenital syphilis if the patients had previously received approximately four years of more or less regular treatment with standard antisyphilitics.

5. A small number of examinations of the spinal fluid indicated that colloidal mercury sulphide influenced the changes in the spinal fluid neither favorably nor unfavorably.

6. The drug was found to be entirely suited to intravenous use, since there were no local or systemic reactions to its administration by this route.

7. In a definitely therapeutic range of dosage, colloidal mercury sulphide was well tolerated and showed a low incidence of evidences of mild mercurialism.

8. The use of colloidal mercury sulphide either intravenously or intramuscularly in the treatment of syphilis whenever a mercury or bismuth compound is indicated is recommended. In the usual routine treatment of syphilis with alternating courses of one of the arsphenamines and bismuth and mercury compounds, a series of 12 or 15 weekly injections of 60 mg. of the drug may be repeated one or more times during therapy. Patients with early syphilis who tolerate the arsphenamines poorly may be given an initial course of 24 semiweekly injections of 60 mg. or 12 weekly injections of 120 mg. of colloidal mercury sulphide with the assurance of producing a prompt healing of the lesions and a satisfactory effect on the Wassermann reaction.

HEMATOGENOUS CUTANEOUS TUBERCULOSIS (SARCOID) IN NEGROES

REPORT OF SIX CASES

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Hematogenous cutaneous tuberculosis in the Negro seems to conform in general with the various manifestations of such disorders in the white race. The relative incidence seems to be much greater as judged from the relative frequence in Negroes at the Central Free Dispensary and the increasing number of reports of cases and clinical articles dealing with these disorders in Negroes. A general review of the pathologic peculiarities of tuberculosis in the Negro by Pinner and Kasper [1] seems to explain this, as they found hematogenous metastases, exclusive of miliary tuberculosis, more than twice as often in the Negro as in the white race in a series of over 500 autopsies on both races. If this is true of tuberculosis in general, why should it not be true of hematogenous cutaneous tuberculosis?

In the series of 6 cases to be described here the elementary lesion varied from a small lichenoid papule to eroded subcutaneous nodules. It would be difficult to group these together unless one followed the plan of Darier,[2a] who classed the variants from lichen scrofulosorum to erythema induratum under the generic term tuberculids and subdivided them only into two large classes, the cutaneous and the hypodermic. Usage has caused the persistence of archaic and cumbersome terms that, while undesirable from many standpoints, still carry nuances of meaning that even Darier's rationalization cannot give. Certainly when

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1. Pinner, M., and Kasper, J. A.: Pathologic Peculiarities of Tuberculosis in the American Negro, Am. Rev. Tuberc. **26**:463 (Nov.) 1932.

2. (*a*) Darier, J.: Précis de dermatologie, ed. 4, Paris, Masson & Cie, 1928, pp. 329 and 346. (*b*) Darier, J., and Roussy, G.: Un cas de tumeurs bénignes multiples sarcoïdes sous-cutanées ou tuberculides nodulaires hypodermiques, Ann. de dermat. et syph. **5**:144, 1904; (*c*) Des sarcoïdes multiples sous-cutanées ou tuberculides nodulaires hypodermiques, Verhandl. u. Ber. d. Internat. Dermat. Kong. **2**:284, 1904. (*d*) Darier, J.: Les sarcoïdes, cutanées et sous-cutanées; leurs rapports avec les sarcomes, les lymphodermies, la tuberculose, Monatschr. f. prakt. Dermat. **50**:419 (May 15) 1910.

these 6 cases,[3] and others similar to them, were presented before various American dermatologic societies, no general agreement as to the exact classification was evident. However there was general agreement that these Negroes presented variations of cutaneous hematogenous tuberculosis.

REPORT OF CASES

CASE 1.—A Negress of 40 years was being treated for latent syphilis. A physical examination when she was first observed revealed only a questionable mitral lesion and a history of two attacks of rheumatic fever. While she was receiving antisyphilitic treatment an eruption developed suddenly on the forehead and nose consisting of several hundred small, translucent, firm papules that attained a diameter of from 2 to 3 mm. in six weeks. The patient disappeared from observation, but returned after an absence of six months with enlargement of the small papules to from 5 to 6 mm. in diameter, and development into lenticular, translucent lesions which tended to fuse on the forehead (fig. 1). Intracutaneous injection of 0.1 cc. of a 1:100 dilution of old tuberculin was followed by a mild local reaction and an intense focal flare-up in the lesions. Because of the marked improvement following this treatment with old tuberculin in dosages of 0.2 cc. of a 1:1,000 dilution, was continued, and after three months of such treatment at weekly intervals the eruption was almost gone. Each injection was followed by moderate local and focal reaction. A roentgenogram of the hands showed them to be normal, but one of the chest, taken when the lesions were about gone, showed increased flaky markings in the lungs. The markings were most evident at the hili, but extended well out into both lungs, suggesting active miliary pulmonary tuberculosis to the roentgenologist. In fact the film was not greatly different from one reproduced in Goeckerman's[4] recent review. The patient had not had constitutional or pulmonary symptoms suggestive of such an infection; on the contrary, she had gained in weight and her condition had improved generally in the fifteen months of observation.

A biopsy specimen of a small papule about six weeks old revealed a small compact granuloma close under atrophic epidermis (fig. 2). It was made up of small, but definitely separated, tubercles consisting mostly of epithelioid cells and fibroblasts with very few giant cells and few lymphocytes. Only one area of probable early necrosis was found at the center of a tubercle. Beyond the periphery of the main granuloma were areas in which capillaries were seen to be taking part in the extension of the lesion.

That this case comes under the classification of cutaneous tuberculids, in the broad sense as used by Darier, seems beyond doubt. The

3. All 6 cases were presented before the Chicago Dermatological Society and have been reported: case 1, by Nomland (Miliary Sarcoid, to be published); case 2, by Ebert and Nomland (Sarcoid, ibid. **26**:366 [Aug.] 1932); case 3, by Nomland (Tuberculosis Miliaris Disseminatus Faciei? Miliary Sarcoids? ibid. **25**:158 [Jan.] 1932); case 4, by Ormsby and Mitchell (Lupus Erythomatosus, ibid. **1**:597 [May] 1920) and Oliver (Sarcoid, ibid. **22**:173 [July] 1930); case 5, by Ebert and Nomland (Tuberculosis Cutis: Multiple Sarcoids, ibid. **23**:1003 [May] 1931), and case 6, by Nomland and Brunsting (Cutaneous Tuberculosis in a Negress, ibid. **26**:1119 [Dec.] 1932).

4. Goeckerman, W. H.: Sarcoids and Related Lesions: Report of Seventeen Cases; Review of Recent Literature, Arch. Dermat. & Syph. **18**:237 (Aug.) 1928.

facts that make such an assumption reasonable are the appearance of one sudden shower of lesions, the roentgen evidence of a probable similar process in the lungs, the focal flare-up in the lesions after injection of old tuberculin and the microscopic structure showing in places a definite relationship of blood vessels to the tuberculous granuloma. In what group of hematogenous cutaneous tuberculosis should this case be placed?

Knowles [5] designated as acnitis an analogous case in a Negro who had several hundred papules on the face and neck ranging in size from that of a pinhead to that of a pea which appeared in crops and had completely healed in ten months. The tuberculin reaction was positive,

Fig. 1 (case 1).—Lenticular papules on the forehead and nose of six months' duration.

and microscopic examination revealed a granuloma which Knowles thought greatly resembled "so-called sarcoid and lupus vulgaris." In spite of this he called the disorder acnitis, which seems erroneous to me. In my case there were no acne-like lesions with necrotic centers which healed and left scars, nor was the pathologic process that of marked necrosis of tissue, later an acute inflammatory reaction and still later a poor tuberculoid structure, which Kyrle [6a] gave as the outstanding

6. Kyrle, J.: (*a*) Vorlesungen über Histo-Biologie der menschlichen Haut und ihrer Erkrankungen, Berlin, Julius Springer, 1927, vol. 2, p. 186; (*b*) Die Anfangstadien des Boeckschen Lupoids: Beitrag zur Frage der tuberculösen Aetiologie dieser Dermatose, Arch. f. Dermat. u. Syph. **131**:33, 1921.

5. Knowles, F. C.: Acnitis in the Negro, J. Cutan. Dis. **35**:61 (Feb.) 1917.

microscopic changes in the papulonecrotic tuberculids. On these clinical and microscopic bases the diagnosis of acnitis could not be entertained.

The condition bears little resemblance to multiple lupus vulgaris, which, according to Adamson [7] occurs most commonly in children after an attack of measles.

Whether the condition might be considered lupus miliaris disseminatus faciei (described originally by Fox [8] under the title "disseminated follicular lupus, simulating acne") offers more difficulties. Wise

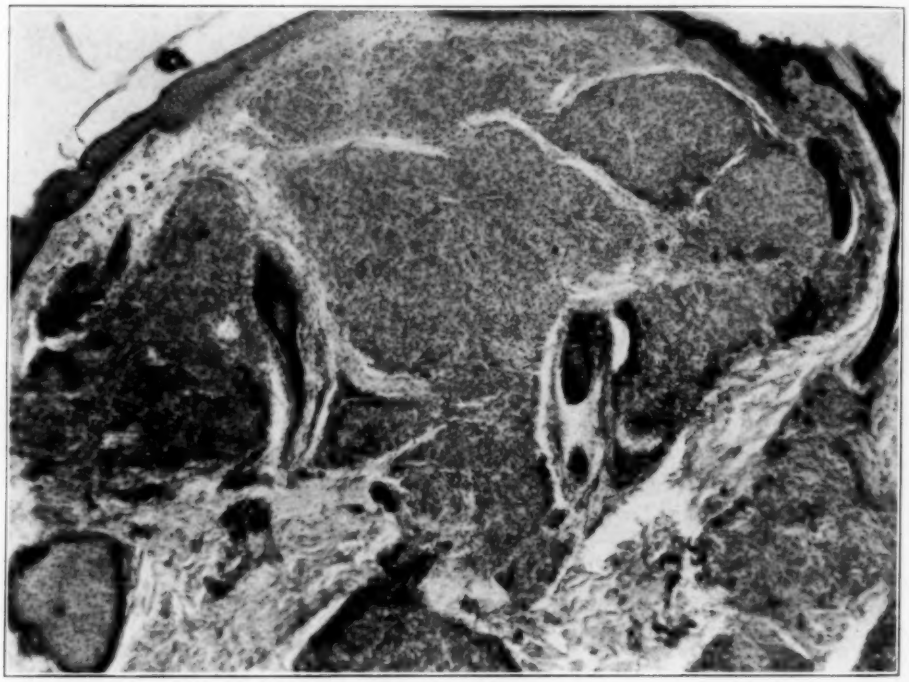

Fig. 2 (case 1).—Photomicrograph of almost an entire lesion, consisting of well separated epithelioid cell tubercles. The epidermis was atrophic. Hematoxylin and eosin stain; × 60.

and Satenstein [9] so considered 3 somewhat similar cases in Negresses. Fox, as the title of his paper indicates, thought that the resemblance

7. Adamson, H. G.: Multiple Lupus Vulgaris Consecutive to Measles, Brit. J. Dermat. **16**:366, 1904.

8. Fox, Tilbury: Clinical Lecture on Disseminated Follicular Lupus (Simulating Acne), Lancet **2**:35 (July 13); 75 (July 20) 1878.

9. Wise, Fred, and Satenstein, D. L.: Clinical and Histologic Features of Certain Types of Cutaneous Tuberculosis, Arch. Dermat. & Syph. **4**:586 (Nov.) 1921.

to acne was the outstanding clinical characteristic, and that pustule-like lesions were present. Lewandowsky [10] and also Gans [11] emphasized the appearance of classic tuberculosis with marked necrosis, and the frequent presence of remnants of the elastica of blood vessels in the necrotic center of the granuloma of lupus miliaris disseminatus faciei. The lack of acne-like lesions and the absence of marked necrosis in the granuloma in the first case would seem to place it outside the group of lupus miliaris disseminatus, though the relative acuity and the presence of lesions on the face cannot make such a decision absolute.

Could the disorder be considered a papular sarcoid? Boeck [12] described cases in which acute papular eruptions were present on the face and elsewhere, which he considered to be sarcoid of the papular variety. His differential diagnosis from lupus miliaris disseminatus was not clearcut on the clinical side and was based chiefly on the microscopic differences. Olson,[13] who tried to simplify the classification of hematogenous tuberculosis, included the papular variety of sarcoid of Boeck in his second group—tuberculosis papularis cutis—and the deeper varieties of Boeck's sarcoid in his third group—tuberculosis nodularis cutis. Boeck, however, insisted on the essential unity of the condition bearing his name, whether the lesions are papules or large infiltrative plaques, basing his contention on the presence of the miliary brown nodules (miliary lupoid of Darier) and the "sarcoid" pathologic process in all cases of true sarcoid. Kyrle [6b] demonstrated tubercle bacilli in the early stages and showed that the epithelioid cell tubercle is a late observation in sarcoid, thus undermining Boeck's conception of the classic pathologic process of sarcoid. It is now well known that pathologic changes characteristic of sarcoid can occur in other chronic infectious granulomas such as syphilis and leprosy. I believe that Boeck's sarcoid should be considered a variety of hematogenous tuberculosis, which in its typical form has a fairly definite microscopic appearance and clinically is often associated with certain demonstrable changes in the bones of the extremities, the lungs or the lymph glands.

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10. Lewandowsky, F.: Die Tuberculose der Haut, Berlin, Julius Springer, 1916, p. 128.

11. Gans, Oscar: Histologie der Hautkrankheiten, Berlin, Julius Springer, 1925, vol. 1, p. 459.

12. Boeck, C.: Multiple Benign Sarkoid of the Skin, J. Cutan. Dis. **17**:543 (Dec.) 1899; Weitere Beobachtungen ueber das "multiple benigne Sarkoid der Haut," Festschrift gewidmet, Moritz Kaposi, Vienna, Wilhelm Braumüller, 1900, p. 153; Fortgesetzte Untersuchungen über das multiple benigne Sarkoid, Arch. f. Dermat. u. Syph. **73**:71 and 301, 1905; Nochmals zur Klinic und zur Stellung des "benignen Miliarlupoids," ibid. **121**:707, 1916.

13. Olson, G. M.: Benign Forms of Tuberculosis of the Skin, J. Cutan. Dis. **33**:515, 1915.

The roentgen changes in the lungs, plus a cutaneous granuloma with many epithelioid cell tubercles and the clinical similarity to some of Boeck's cases, would make the diagnosis of papular sarcoid in case 1 the most likely of any of the hematogenous papular cutaneous tuberculids.

CASE 2.—A Negress of 54 years presented a disorder that began five months before she came under observation. It started on the face as small itching lesions which enlarged slowly. Soon thereafter she noted enlarging "knots" in the neck which were not tender.

The eruption consisted of about two dozen flat, soft, somewhat erythematous, slightly elevated papules (fig. 3) on the forehead, cheeks and nose. Most of them

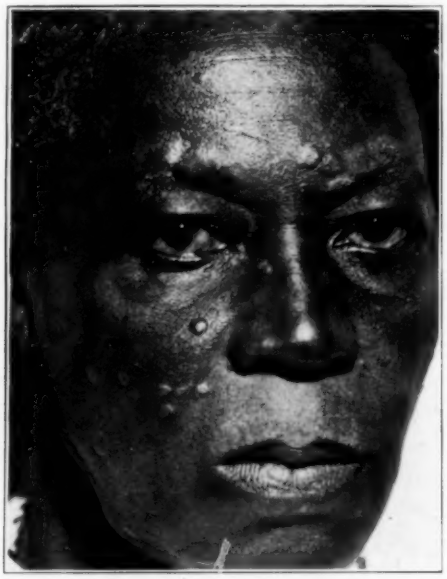

Fig. 3 (case 2).—Large flat papules on the face of five months' duration. The enlarged lymph gland in the right submaxillary region is notable.

were about 10 mm. in diameter, but some were only about 2 mm. A general examination revealed more than normal enlargement of all the palpable groups of lymph glands and marked enlargement of one epitrochlear gland and the submaxillary and anterior cervical glands. The largest was about the size of a large walnut, firm, discrete and not tender. Mild hypertension was present, but roentgenograms of the chest and hands showed them to be normal. The patient had lost 13.6 Kg., and gave a history suggestive of pulmonary tuberculosis in 2 of her children who had died in childhood. There was a questionable positive reaction to old tuberculin in a dilution of 1:20.

Microscopic examination of a lesion showed a marked tuberculoid reaction extending from the thinned epidermis to the fat layer of the cutis. It was made up of confluent tubercles with giant and epithelioid cells and a few lymphocytes with little tendency to separation except at the lower margin where epithelioid cell tubercles with fewer giant cells tended to be discrete. Recognizable endothelium

of capillaries was found throughout the granuloma, and in one section portions of four partly destroyed hair follicles were seen. No tuberculosis developed in two guinea-pigs, in one of which a small excised papule had been placed under the skin in the inguinal region; the other had been given an intraperitoneal injection of material aspirated from an enlarged submaxillary lymph gland.

The patient disappeared from observation for eighteen months and when she returned the lesions had involuted completely, leaving small atrophic areas with reddened edges but no infiltration. The enlarged glands had decreased by at least two-thirds, she had gained 7 Kg., and her general health was much better. A roentgenogram of the chest appeared the same as that made eighteen months before, but the reaction to tuberculin had changed and was now definitely positive in a dilution of 1:100.

The relatively rapid recovery and the improvement in general health both speak for a high resistance to the infection; however, in one patient the allergy to tuberculin was high, and in the other almost absent. In case 2 one must assume the presence of a positive anergy with ability to develop good tuberculoid structure in tissue and to overcome the infection in spite of a lack of reaction to tuberculin. Crawford [14] thought the cutaneous manifestations of a somewhat similar case were a manifestation of anergy, and that later, when allergy developed, more serious tuberculous infections might occur. His contention is partially supported by the course in case 2. The patient was anergic, but any obvious additional lesion failed to develop when she became allergic. The allergy to tuberculin present in 3 others of this series speaks against Crawford's theory. The problem of allergy in cutaneous hematogenous tuberculosis including sarcoid is, in my opinion, far from solved.

The rather marked enlargement of some groups of lymph glands was noted in Boeck's first case and has been reported in Negroes by Rauschkolb,[15] Weidman,[16] Klauder,[17] Crawford and Tauber and Goldman.[18] Most of these authors considered their cases as varieties of hematogenous tuberculosis, and many thought them best classified as sarcoid. Crawford and Tauber and Goldman advanced the idea that

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14. Crawford, S.: Cutaneous Nodulodiscoid Tuberculosis of Anergic Type, with Development into Active (Allergic) Pulmonary Tuberculosis, Arch. Dermat. & Syph. **27**:766 (May) 1933.

15. Rauschkolb, J. E.: Tuberculosis of the Skin: Two Cases, Arch. Dermat. & Syph. **23**:155 (Jan.) 1931.

16. Weidman, F.: Sarcoid of Boeck, Arch. Dermat. & Syph. **5**:145 (Jan.) 1922; Sarcoid of Boeck and Lichen Scrofulosorum, ibid. **5**:423 (March) 1922.

17. Klauder, J. V.: Multiple Sarcoid-Like Granulomas of the Skin, Arch. Dermat. & Syph. **12**:171 (Aug.) 1925. Klauder, J. V., and Weidman, F.: Multiple Sarcoid-Like Granulomas of the Skin: Supplementary Note, Arch. Dermat. & Syph. **13**:675 (May) 1926.

18. Tauber, E., and Goldman, L.: Systemic Phase of Tuberculosis Cutis, Arch. Dermat. & Syph. **27**:295 (Feb.) 1933.

the cutaneous lesions were only a manifestation of a generalized infection, a contention that is borne out by the widespread cutaneous eruption, involvement of the lymph glands and general constitutional symptoms present in many cases.

The failure of inoculations in animals was to be expected, because it is now generally accepted that bacilli in hematogenous cutaneous lesions are viable for only a short time. Similar negative results of inoculation of animals with material from lesions in Negroes were reported by Klauder and Crawford. The latter thought that he demonstrated and grew in culture atypical forms of bacilli from lymph glands.

There is little to suggest the diagnosis of acnitis, lupus miliaris disseminatus faciei or similar types of papular tuberculids in case 2. The lesions, beginning as papules and healing in eighteen months, are comparable to those in case 1. The involvement of the lymphatic glands, the low (absent?) and later increased allergy to tuberculin and the lack of roentgenographic changes in the lungs are in contrast to the observations in case 1. In general, however, the cases are not very dissimilar.

The diagnosis of sarcoid seems most logical because of the clinical similarity to some of Boeck's cases, the marked enlargement of groups of lymph glands and the tuberculoid pathologic changes.

Except for its duration, eight years, the third case was much like the first.

Case 3.—A Negress, aged 32 years, first noted the eruption eight years previously at the inner angles of the eyes; later it appeared on the nostrils and nasolabial folds and, within the year preceding her first visit, spread to the neck and chest. The lichenoid papules, from 1 to 2 mm. in diameter, were somewhat lighter than the normal skin. Because of the color of the negroid skin, apple-jelly brown nodules were not demonstrated in this case or in any case in the series.

The history, complete general examination and laboratory studies revealed no gross abnormalities. The intracutaneous injection of tuberculin showed a slightly positive reaction with a dilution of 1:1,000 and a definite reaction with a dilution of 1:100. A roentgenogram of the chest revealed an increase in both hilar shadows, large calcified glands and an increase in the pulmonary markings extending toward the bases of both lungs.

A biopsy specimen revealed a triangular granuloma made up of fairly well separated tubercles, its base touching the atrophic epidermis. A number of giant cells were found in the centers of the tubercles, and small areas of necrosis in one or two areas. The pathologic process was almost a duplicate of that in case 1.

The papular lesions on the face, the pathologic process, the evidence of changes in the lungs and the definite allergy to old tuberculin are much like the observations in case 1, and for the same reasons the diagnosis of papular sarcoid was considered most suitable. The long duration, eight years, is much more compatible with the diagnosis of sarcoid than with that of any other sort of hematogenous papular tuberculosis.

Case 4.—A Negress, aged 48 years, had been seen by Ormsby [19] nine years previous to the time she was seen by me. She then gave a history of lesions appearing at the inner angles of the eyes eight years before. Later, lesions developed on the lobes of and behind the ears and on the lip, nostrils and eyebrows.

She then presented circular and linear papular elevations about the nose and lids with some scarring. On and behind the ears was much superficial scarring without appreciable nodules (fig. 4). In this situation the lesions strongly suggested lupus erythematosus. Histologic examination revealed distinct evidence of tuberculosis. In the discussion of this case Gilchrist stated that lupus erythematosus and lupus vulgaris were both simulated. Sweitzer and Irvine agreed to the clinical resemblance to lupus erythematosus. Ormsby stated that the case clinically resembled lupus erythematosus, but was histologically tuberculosis. The photograph of this patient appears in Ormsby's textbook labeled lupus miliaris disseminatus

Fig. 4 (case 4).—The lesions as they appeared in 1919, then of eight years' duration. Papules, small nodules and annular lesions were present at the inner canthi, nares and lip (reproduced from Ormsby, O. S.: A Practical Treatise on Diseases of the Skin, Philadelphia, Lea & Febiger, 1927).

faciei, presumably on account of the close resemblance to the cases recorded by Wise and Satenstein under this title.

The patient reappeared after an absence of nine years with enlargement of many of the old lesions on the nose, lip, eyelids and lobes of the ears (fig. 5). Many papules had become nodules 15 mm. across, but some areas previously involved were now free, and showed only doubtful atrophy.

Nodules from the nose and eyelid were examined, and both showed the same essential structure, an infiltrate made up of large collections of epithelioid cells

19. Ormsby, Oliver S., and Mitchell, J. H.: Lupus Erythematosus, Arch. Dermat. & Syph. **1**:597 (May) 1920. Ormsby, O. S.: A Practical Treatise on Diseases of the Skin, ed. 3, Philadelphia, Lea & Febiger, 1927, p. 716.

extending from just beneath the atrophic epidermis to the deep cutis. There were smaller islands at the periphery of the larger areas. There were no giant cells and no necrotic areas, and only a few lymphocytes were found at the edges of, and scattered through, the larger areas of epithelioid cells. The pathologic process was typical of well developed sarcoid in structure, arrangement and cell types.

When the patient was presented before the Chicago Dermatological Society after a lapse of nine years, the diagnosis of sarcoid was generally accepted. The lesions evolved from papules with tuberculous structure, analogous to the process in some of the preceding cases, to large nodules with a typical sarcoid architecture. This evolution of the lesions would make valid the assumption that in the beginning the disorder should have been considered papular sarcoid of Boeck rather than the diagnoses considered.

Fig. 5 (case 4).—The condition in 1929, then of eighteen years' duration. Many of the papules are now large nodules.

Case 5.—A Negress, aged 40 years, first noted lesions on the left eyelid three years before coming under observation. The condition progressed and new lesions appeared on the eyelids, nasolabial folds, chin and neck. At this time the disorder was not greatly different from that of the patient in case 4 when she was first seen by Ormsby. Instead of remaining limited to the head, lesions appeared on the body about two years after the onset. These began as small nodules or papules of varying size, some of which soon spread peripherally to form annular plaques; but many persisted as isolated nodules, not a few of which were in lines. No lesion had ulcerated, though a few had eroded the overlying skin, a condition not present on her first visit.

The patient presented several types of lesions (fig. 6). On the face, eyelids, nasolabial folds, nose, forehead, cheeks and entire neck were papules (small nodules) from 2 to 4 mm. in diameter, tending in some places to annular configura-

tion and in others to linear arrangement. There was slight scaling in some areas, with mild erythema. On the back, abdomen, arms and thighs (fig. 7) were several dozen annular plaques and many discrete large and small nodules. The plaques had a diameter of from 2 to 10 cm. with a border made up of papules and small nodules and a center tending to involution and atrophy, but not to scarring.

After the patient had been under observation for about six months there was an intense flare-up, with the appearance of many new lesions and an enlargement of those already present to such an extent that some of the nodules on the body eroded the overlying epidermis and became crusted. Involution of the lesions to about their original status occurred under the administration of large doses of arsenic by mouth.

Examination of a section of a rather recently developed large papule revealed atrophic epidermis and immediately under it a granuloma consisting of many

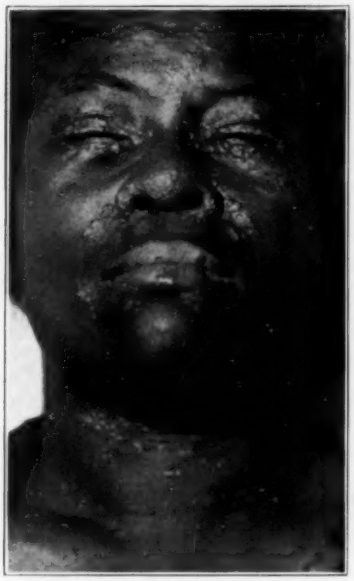

Fig. 6 (case 5).—Nodules and papules, many in annular arrangement, on the forehead, nasolabial folds, lips and neck, of four years' duration.

ordinary tubercles with giant cells at the center, epithelioid cell tubercles and collections of giant cells suggestive of the foreign body type of reaction. In the deeper cutis were mostly epithelioid cell tubercles well separated by connective tissue septums. It was considered fair sarcoid structure.

The personal and family history was unimportant except for a questionable history of syphilis with inadequate treatment. General examination showed only a rather marked obesity and a transient albuminuria. Roentgen examination of the chest and hands revealed them to be normal, and the Wassermann reaction was repeatedly negative. Treatment with neoarsphenamine and a bismuth preparation and later with gold sodium thiosulphate were unsuccessful. Recent examination of the larynx because of hoarseness showed slight thickening of the left vocal cord and the interarytenoid fold. Whether this presages extensive involvement remains to be seen. At first tuberculin in dilutions of 1:1,000 produced only a slightly

positive reaction, but recently, following the success of tuberculin therapy in case 1, weekly injections of as little as 0.05 cc. of a 1 : 1,000 dilution have been followed by intense local reactions and focal flare-ups with redness, itching and scaling of the lesions lasting for several days. The reaction was so intense on one occasion that many nodules and plaques on the body eroded the skin and became crusted lesions which were slow in healing. Previously there had been slight regression of the

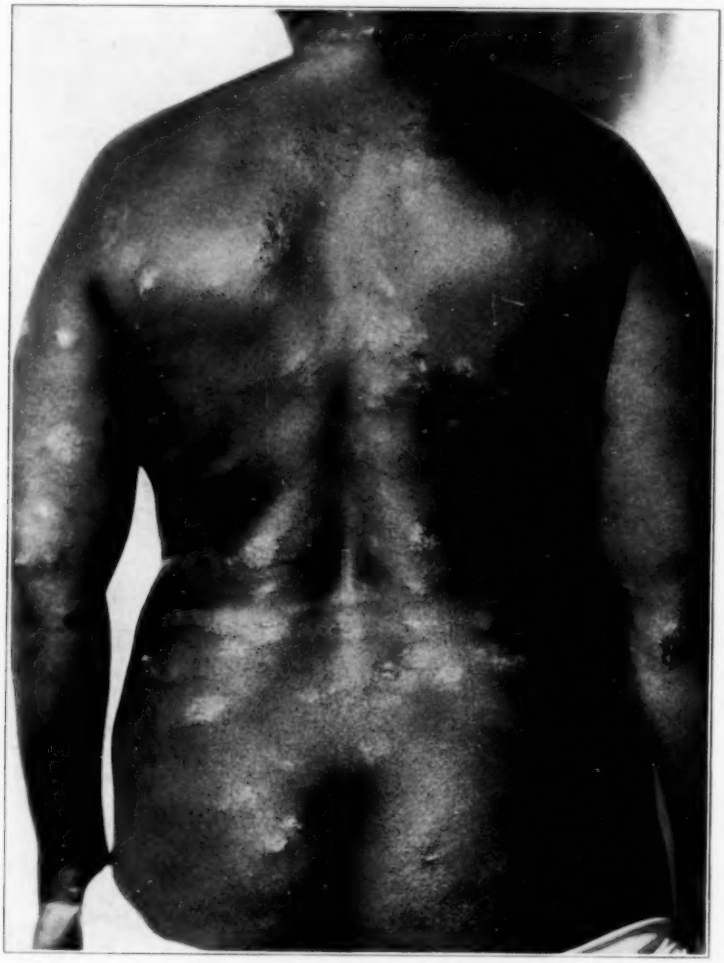

Fig. 7 (case 5).—Annular plaques on the back and arms of four years' duration. The lesions near both elbows have eroded the skin.

lesions following the focal reactions. A recent roentgenogram of the lungs revealed a normal condition.

This case and the previous one were undoubtedly similar at the outset, i. e., presenting papules and small nodules on the face, with a predilection for the eyelids. They were not unlike the condition in the

Negresses described by Wise and Satenstein, which they considered lupus miliaris disseminatus. The later course in case 4, with the development of large nodular lesions at the sites of the papules, and in case 5, with the development of disseminated nodules and plaques on the body, and the sarcoid pathologic changes made the diagnosis of lupus miliaris disseminatus faciei improbable. A diagnosis of a mixed type of sarcoid of Boeck was made on the basis of the pathologic changes, which are compatible with those usually described for sarcoid, and the clinical picture of mixed lesions, papules, nodules and annular plaques. Several of Boeck's cases presented similar mixed lesions. The analogy between case 5 and cases 3 and 4 is seen in the early papular lesions which appeared first on the eyelids and later elsewhere on the face; but, instead of remaining limited as in the former cases, the lesions in case 5 spread to the extremities and body.

Two cases in Negroes almost identical with case 5 were presented by Rauschkolb [15] under the nonspecific diagnosis of tuberculosis of the skin. They showed widespread papular, nodular and plaquelike lesions and marked enlargement of several groups of lymph glands. Microscopically a hyperplastic tuberculous structure was found. Most of those who saw the patients considered the conditions to be varieties of hematogenous tuberculosis of the skin, but there was no general agreement as to the exact name. Klauder,[17] who viewed these cases, considered them to be like the one he reported as "multiple sarcoid-like granulomas" in a Negress, who later died and on autopsy was shown to have pulmonary, gastro-intestinal and lymphatic tuberculosis. Shaw [20] presented an almost identical case which most of the observers believed to be sarcoid. In a case of Pardo-Castello's [21] papules and nodules occurred on the face and body of a Negro with scrofuloderma. Under various diagnoses indicative of hematogenous cutaneous tuberculosis, Busman,[22] Gouvain,[23] Hart-Drant,[24] Weidman,[16] Wise,[25] Ginsberg [26] and others have reported cases that in general corresponded to one or another of the first 5 cases.

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20. Shaw, H. C.: A Case for Diagnosis, Arch. Dermat. & Syph. **23**:1159 (June) 1931.

21. Pardo-Castello, V.: Miliary Sarcoid: Scrofuloderm, Arch. Dermat. & Syph. **26**:919 (Nov.) 1932.

22. Busman, G. J.: Disseminate Miliary Tuberculosis, Arch. Dermat. & Syph. **26**:194 (July) 1932.

23. Gouvain, E. A.: A Case for Diagnosis, Arch. Dermat. & Syph. **27**:154 (Jan.) 1933.

24. Hart-Drant: Sarcoid of Boeck, Arch. Dermat. & Syph. **11**:556 (April) 1925.

25. Wise, Fred: Sarcoid of Boeck (Multiple Benign Miliary Lupoid), Arch. Dermat. & Syph. **7**:840 (June) 1923.

26. Ginsberg, Leon: Sarcoid of Boeck in the Negro, Bull. Johns Hopkins Hosp. **45**:108, 1929.

Case 6.—A Negress in her thirties was first examined at the Mayo Clinic in 1928, when she had otitis media. She returned in 1932 with a cutaneous condition which had begun about three years before as small, rather deep-seated nodules on the arms which slowly enlarged, and in the preceding year had eroded the overlying skin. None of the lesions had disappeared, but from time to time new ones appeared. The number of lesions did not exceed twenty, and were distributed irregularly over the arms from the deltoid region to the midforearm. Lesions occurred in a series of nodules extending up the arms, and there was some, but not complete, symmetry of the lesions on the two arms. They were present as subcutaneous nodules—red, firm and poorly demarcated and from 1.5 to 3 cm. across. About five of the older ones had eroded the skin and were covered by a firm thin crust but there was no deep ulceration as is usually found in erythema

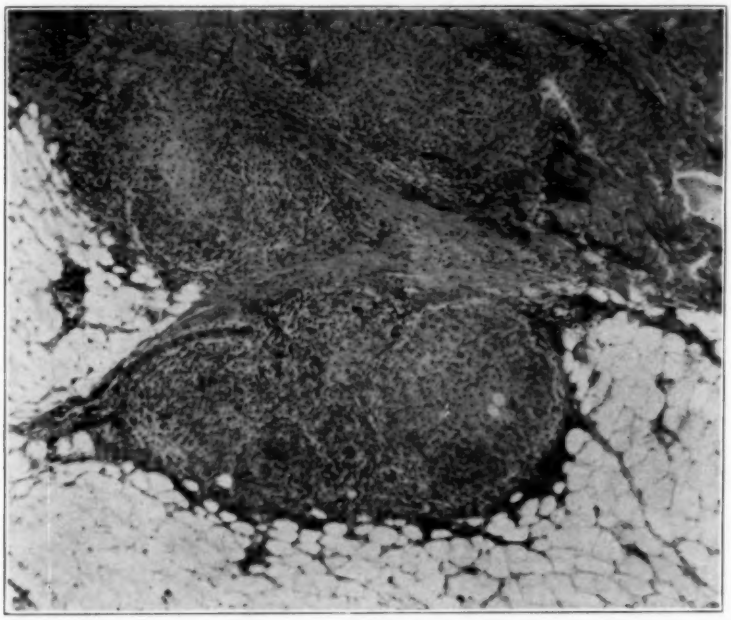

Fig. 8 (case 6).—Photomicrograph of epithelioid cell tubercles invading the fat layer (*Wucheratrophie*). Hematoxylin and eosin stain; × 60.

induratum. There were three small recently developed papular lesions on the nose, cheek and lip.

Complete general examination at the Mayo Clinic, including roentgenograms of the chest and hands, revealed no abnormalities except for marked leukopenia, with a white cell count of 3,600, and a slight thickening of the mucous membrane of the glottis.

Because of hoarseness, developing after the visit to the clinic, examination of the larynx was done by Dr. Thomas F. Lewis. He found a rugous thickening of both vocal cords and ventricular bands, but no ulceration. There was marked thickening of the mucous membrane of the epiglottis, with a mobile fold extending along the entire width, arising from the posterior surface. This fold was elevated about 4 mm. and could be picked up by forceps. Hypertrophy of the nasal mucosa, especially of the septum, of a similar character but less marked was also present.

A biopsy was performed on a cutaneous nodule at the Mayo Clinic, and later tissue from the nasal and epiglottic mucous membranes was examined. Sections of the skin (fig. 8) revealed a granuloma extending from just beneath the epidermis, which was atrophic, down to the fat layer, which was in some places invaded by the granuloma (*Wucheratrophie*). The granuloma consisted almost entirely of epithelioid cell tubercles with an occasional giant cell at the center and a few lymphocytes at the margin. In the center of some of the epithelioid cell tubercles necrosis was present. Sections from the fold on the epiglottis also consisted of a superficial, well circumscribed granuloma almost identical with that of the skin. In the tissue from the nasal septum a few isolated epithelioid cell tubercles, not close to the surface, were present. The similarity of the microscopic appearance of the three sections was striking.

Allison and Mikell [27] reported a similar condition in a Negress. They considered it the Boeck or Darier-Roussy sarcoid, with involvement of the nose and larynx, lesions of various types on the skin and cystic changes in the bones of the hands. Tauber and Goldman's third case, Crawford's second and case 5 of this series also showed early changes in the larynx, though the cutaneous lesions were different. Boeck thought that involvement of the mucous membrane of the nose was common in sarcoid. Stillians [28] presented 2 Negresses with disseminated nodular lesions that he considered from clinical and pathologic standpoints as sarcoids of the Darier type.

The classification of the sixth case would seem to fit into the group that Darier [2a] called "sarcoides noueuses disséminées," having disseminated subcutaneous nodules with preference for the extremities, but also occurring elsewhere. The pathologic picture of case 6 is like that which Darier described and which he admitted is very similar to that of erythema induratum. In fact he included this variety of sarcoid with erythema induratum and other hematogenous indurative tuberculoses in his second large group, "tuberculides hypodermiques." According to Darier such sarcoid lesions can erode the overlying skin, as occurred in case 6. Similar erosion, in a different type of lesion, occurred in case 5 and in Klauder's and in Crawford's cases. The presence of three recently developed papular lesions on the lip, cheek and nose seems to serve as a link connecting case 6 with the other 5 of this series, in 2 of which lesions occurred on the lips.

COMMENT

The essential similarity of all the cases in this series irrespective of the rapidity of progress of the lesions is based on two observations: 1. The pathologic changes consisted predominantly of groups of well

27. Allison, J. R., and Mikell, P. V.: Sarcoid Associated with Tuberculosis of the Larynx: Report of a Case, Arch. Dermat. & Syph. **25**:334 (Feb.) 1932.

28. Stillians, A. W.: Sarcoid: Two Cases, Arch. Dermat. & Syph. **15**:378 (March) 1927.

circumscribed epithelioid cell tubercles forming a larger granuloma. 2. Except in the last case, the earliest elementary lesion was a small, lichenoid or round papule located on the face. Even in the sixth case small papules on the face were a late manifestation.

That all the cases represent some variety of hematogenous cutaneous tuberculosis seems obvious. The granuloma in all cases showed definite relationship to the blood vessels, and in 2 cases there was a marked focal flare-up following the intracutaneous injection of old tuberculin. The enlargement of the lesions and the formation of new lesions in "crops" and individually are difficult to explain unless it is assumed that the formation of granuloma is called into being by repeated showers of bacilli and by tuberculous allergic reactions the nature of which is still not wholly understood.

That the disorder presented by the 6 Negresses should be considered sarcoid, even when only small papules are present, and in spite of the fact that similar cases in Negroes have been considered acnitis, lupus miliaris disseminatus and other conditions, rests on the following bases: 1. Boeck and others described similar papular eruptions and designated them as types of sarcoid. 2. Neither the clinical nor the microscopic appearance is like that given by Fox and Lewandowsky for lupus miliaris disseminatus faciei. 3. The pathologic process is comparable to that described for sarcoid by Boeck, Darier and Kyrle. 4. The clinical course of cases 4 and 5 demonstrated that small papular lesions may become nodules, which is not characteristic of lupus miliaris disseminatus or acnitis.

Other characteristics in favor of the diagnosis of sarcoid present in some of the cases are: (1) the marked roentgen changes in the lungs in 1 case and milder changes in another that are not dissimilar to those mentioned by Goeckerman, and (2) enlargement of groups of lymph glands in 1 case, which is frequently alluded to in the literature on sarcoid and has been reported fairly often in Negroes.

Absence of roentgen indications in the chest in 3 patients and lack of cystic areas in the bones of the hands in the 5 patients so examined is not contrary to the general experience in sarcoid. Bony changes in the hands have been described in several cases of sarcoid in Negroes. The high allergy to tuberculin in 3 of the 4 patients tested (2 of these showing marked focal flare-up in the lesions) is contrary to the experience in the white race, in which tuberculin anergy is considered the rule. Failure of inoculation of guinea-pigs in 1 case was to be expected, as positive results of inoculation of animals is very rare in cases of sarcoid. Klauder (in a Negress with proved pulmonary tuberculosis and sarcoid) and Crawford failed to get positive results in inoculation of animals. Tuberculosis elsewhere has been reported several times in Negroes with sarcoid.

It is difficult to evaluate the relationship of disseminate nodular sarcoid (Darier), as presented in case 6, to Boeck's sarcoid. Boeck, and recently Kissmeyer,[29] denied the unity of the two types. Most writers are inclined to accept the essential similarity and to classify them as forms of tuberculosis cutis indurativa, at the same time indicating that the Darier type is closely related to erythema induratum.

That sarcoid, including the Darier type, should be considered hematogenous cutaneous tuberculosis seems to be a generally accepted assumption. The impression that it is a cutaneous manifestation of a systemic disorder is gaining adherents. The systemic nature of the disorder is indicated by the following findings in this series: marked changes in the lungs (case 1); less marked pulmonary changes (case 3); disseminated lesions over the body with early changes in the larynx (case 5); marked enlargement of several groups of lymph glands (case 2), and disseminated nodular lesions (Darier type) plus marked involvement of the mucosa of the larynx and nose (case 6). There is no question that the term sarcoid is etymologically an atrocious choice, but it seems to me that usage has made it the best designation for certain types of hematogenous cutaneous tuberculosis that are often associated with certain findings elsewhere.

SUMMARY

Six cases of hematogenous tuberculosis of the skin considered to be sarcoid are described in Negro women, from 32 to 54 years of age, whose conditions ranged in duration from a few weeks to eighteen years. The types varied from rather acute papular lesions, thought to be of the papular type described by Boeck, to the nodular disseminate type of Darier. Bony changes in the hands were not found in 5 cases, but marked pulmonary changes were demonstrated in 1 and slight changes in another. Extensive involvement of the mucosa of the larynx and nose was found in a woman with disseminate nodular sarcoid, and slight changes were found in the larynx of another. Lesions on the lips were present in 3 instances. The tuberculin reaction was strongly positive in 3 of 4 patients tested and in 2 of these marked focal reaction occurred in the lesions, with subsequent regression. Inoculation of guinea-pigs with tissue from a lesion and with material aspirated from an enlarged lymph gland in 1 case was without result. Marked enlargement of several groups of lymph glands was present in 1 case. The pathologic process was in all cases comparable to that usually described for sarcoid structure. Because of the color of the Negro skin, demonstration of apple-jelly brown nodules was almost impossible. The same was true of telangiectatic vessels over the larger plaques.

29. Kissmeyer, A.: Bidrag til det Boeckske sarkoids klinik og aetologi, Hospitalstid. **74**:1047 (Nov. 5) 1931.

DERMATITIS DUE TO POTASSIUM MERCURIC IODIDE

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Potassium mercuric iodide (K_2HgI_4) is a complex salt formed by the interaction of 1 molecule of mercuric iodide with 2 molecules of potassium iodide and containing about 25.5 per cent of mercury. As a germicide it is claimed to have a greater factor of safety than corrosive mercuric chloride, being only one-half as toxic for animals. For several years the following solution of this substance has been used in the surgical service of the New Haven Hospital as an antiseptic for preoperative preparation of the skin:

> 1 per cent potassium mercuric iodide in an 85 per cent acetone solution with 0.0166 per cent eosin as a coloring agent

This solution has proved successful as an antiseptic except for an occasional reddening of the skin. In operations on the face and head the skin is usually treated with a 70 per cent alcohol solution after the use of the potassium mercuric iodide.

The following case is reported as an example of cutaneous sensitivity to this chemical preparation.

REPORT OF A CASE

A. L., an Italian girl, aged 3½ years, was admitted to the pediatric service on Feb. 10, 1932. A diagnosis of postscarlatinal bilateral otitis media and right mastoiditis was made. A right mastoidectomy under ethylene anesthesia was performed, after the skin had been prepared with potassium mercuric iodide solution and then treated with alcohol. During the following five months the wound continued to drain pus; on July 29, a second operation was performed, with removal of sequestra of bone. The skin was prepared in the same way as for the previous operation, and within a month the wound was completely healed.

The patient was next seen about a year later, in September, 1933; a diagnosis of chronic right otitis media with postauricular subperiosteal abscess was made, and on September 15 a third mastoid operation was performed. On this occasion the application of the antiseptic was not followed by treatment with alcohol. Three days after the operation there was erythema of the right cheek. The discharge from the wound cleared up, but within two weeks there was severe dermatitis of the right ear and surrounding skin (fig. 1). At this time, when we first saw the patient, there was marked dermatitis of the external ear and the surrounding skin

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extending from 2 to 3 inches (5 to 7.5 cm.) in all directions, consisting of papules, vesicles and crusts on an erythematous base. There was no discharge from the mastoid wound. There was a mass of firm, slightly tender lymph nodes inferior to the ear and at the angle of the jaw. Continuous wet dressings of solution of aluminum acetate diluted with seven parts of water were applied, and at the end of a month the dermatitis had disappeared, and the adenitis had subsided.

In view of the fact that in the two previous operations on the same side, when the antiseptic was washed off with alcohol, no dermatitis developed, it was suspected that the patient might be sensitive to potassium mercuric iodide. Accord-

Fig. 1.—Dermatitis due to potassium mercuric iodide in patient A. L.

ingly, 1 drop of the antiseptic was gently massaged into the skin of the forearm and allowed to dry. At the end of sixteen hours there was definite dermatitis, consisting of numerous small vesicles and papules, over this area. Then a series of patch tests were performed, the substances being left in contact with the skin for twenty-four hours. The following tests were made with the results indicated:

1. 1 per cent potassium mercuric iodide in acetone and eosin; marked reaction at the end of twenty-four hours, consisting of a large red bleb, tense with serosanguineous fluid (fig. 2).
2. 85 per cent acetone; no reaction.
3. 0.0166 per cent eosin in 85 per cent acetone; no reaction.
4. 0.0166 per cent eosin in water; no reaction.

5. 1 per cent aqueous solution of corrosive mercuric chloride; slight papular and vesicular eruption at the end of twenty-four, forty-eight and seventy-two hours, by no means comparable in severity to the reaction in no. 1.
6. 1 per cent aqueous potassium iodide; no reaction.
7. 1 per cent aqueous mercurochrome; no reaction within forty-eight hours; at the end of four days, slight roughening of the skin.
8. 0.5 per cent tincture of metaphen; a few small vesicles within forty-eight hours.
9. 1:1,000 merthiolate solution; a few barely visible papules in four days.
10. 10 per cent ointment of ammoniated mercury; no reaction.

As controls, patch tests with the antiseptic were done on three persons, aged 9, 29 and 4 years, who presumably had never been exposed to potassium mercuric iodide previously. The reactions were negative for the first two patients, and

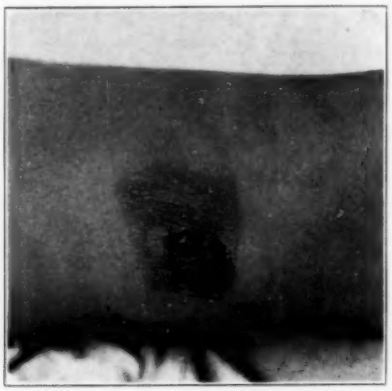

Fig. 2.—Patch test with potassium mercuric iodide in the same patient.

for the third there was slight formation of vesicles and papules. Two other persons who had previously been exposed to potassium mercuric iodide were tested. The first, a man, aged 38, had had preoperative preparation of the skin of the abdomen with the antiseptic six weeks and ten days previously. The second person, a woman of 46, had had preparation of the skin of the abdomen with the antiseptic nearly three years previously. Both of these patients gave negative reactions to the patch tests.

COMMENT

Although this patient exhibited a varying degree of sensitivity to the entire group of mercurial antiseptics, as evidenced by the patch tests, the reaction to potassium mercuric iodide was so marked that it indicated a special sensitivity. In a series of twenty-one cases of contact dermatitis Kesten and Laszlo [1] reported one case due to potassium mercuric iodide. The patient gave a history of previous contact with this

1. Kesten, B., and Laszlo, E.: Dermatitis Due to Sensitization to Contact Substances, Arch. Dermat. & Syph. **23**:221 (Feb.) 1931.

chemical preparation without the development of dermatitis. The contact which caused the dermatitis was with a much weaker solution than the preceding one. The patch test was made with a 0.05 per cent solution. Kesten and Laszlo stated that dermatitis caused by potassium mercuric iodide had apparently not been recorded in the literature. Since then an instance of dermatitis of the hands and forearms after the use of Neko soap has been reported in an inquiry [2] to *The Journal of the American Medical Association.* This soap contains potassium mercuric iodide.

It may be said that the test solution used in our case was strong enough to be an actual irritant, but the entire group of tests were made with solutions of the strength in common use, and the reaction was typical of dermatitis. In addition, five control tests were made with the same solution; four of the subjects failed to react, and the fifth gave only a slight reaction.

It seems highly probable that in the case reported here we were dealing with a sensitivity acquired through previous contact with potassium mercuric iodide, but this cannot be stated as a fact because in both the previous contacts the antiseptic was rapidly removed with alcohol, and therefore it is impossible to be sure that the patient was not previously sensitive to this substance.

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2. Dermatitis from Potassium Mercuric Iodide Soap—Induration from Mercuric Salicylate Injection, Queries and Minor Notes, J. A. M. A. **97**:1644 (Nov. 28) 1931.

KRAUROSIS, LEUKOPLAKIA AND PRURITUS VULVAE

CORRELATION OF CLINICAL AND PATHOLOGIC OBSERVATIONS WITH FURTHER STUDIES REGARDING RESECTION OF THE SENSORY NERVES OF THE PERINEUM

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This article is a further report of work instigated by Learmonth [1] regarding resection of the sensory nerves of the perineum in cases of kraurosis, leukoplakia and pruritus vulvae, with lichenification; it is especially concerned with the correlation of the clinical and pathologic observations. We believe that it is possible to distinguish these conditions, one from the other, both clinically and histopathologically. Contrary to the opinion of many authors we believe that they represent distinct entities and that one may occur independent of either of the other two. In many cases, however, two, or all three, of the conditions may be present either clinically or pathologically, or both, and may merge with one another, especially as all three are likely to appear in the later decades of life. This merging of the three conditions, we believe, accounts in part for the confusion in terminology and for the variations in the interpretations of clinical and pathologic observations that exist in the literature. Furthermore, gynecologists, dermatologists and pathologists write from different points of view without giving sufficient attention to the mucocutaneous picture, to the duration of the disease, to the site of biopsy, to the age of the patient or to the various histopathologic changes present. Pruritus is a prodromal or associated state in all three conditions. The clinical and histopathologic picture may be further complicated by the effects of various treatments, such as local applications and radiotherapy. We shall not discuss all the diseases of the vulva or pruritus vulvae due to systemic diseases such as diabetes,

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From the Section on Dermatology and Syphilology, the Division of Surgery and the Section on Neurologic Surgery, the Mayo Clinic.

1. Learmonth, J. R.; Montgomery, Hamilton, and Counseller, V. S.: Resection of Sensory Nerves of Perineum in Certain Irritative Conditions of the External Genitalia, Arch. Surg. **26**:50 (Jan.) 1933.

for this has recently been done by Taussig.[2] We wish, however, to call attention to the early histopathologic changes of a malignant process in situ. The various phases of kraurosis, leukoplakia or pruritus vulvae with lichenification, together with references to the older literature, are to be found in recent articles by Taussig,[3] Gårdlund,[4] Oppenheim,[5] Graves and Smith,[6] Counseller,[7] Rentschler,[8] Mueller,[9] Terruhn,[10] Frieboes,[11] Brocq,[12] Jayle,[13] Darier[14] and Gans.[15] We have reviewed the older as well as the more recent articles on the three conditions under consideration, but shall refer only to a few regarding controversial points.

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2. Taussig, F. J.: Diseases of the Vulva, Gynecological and Obstetrical Monographs, New York, D. Appleton & Company, 1931, vol. 13.

3. Taussig, F. J.: (*a*) Precancerous Lesions of the Skin of the Vulva, Leukoplakic Vulvitis, Kraurosis, Pruritus, Arch. Dermat. & Syph. **1**:621 (June) 1920; (*b*) Chronic Leukoplakic Vulvitis Followed by Cancer, S. Clin. North America **2**:1559 (Dec.) 1922; (*c*) Contributions to the Pathology of Vulvar Disease, Am. J. Obst. & Gynec. **6**:407 (Oct.) 1923; (*d*) Leucoplakic Vulvitis and Cancer of the Vulva (Etiology, Histopathology, Treatment, Five-Year Results), ibid. **18**:472 (Oct.) 1929; (*e*) Leukoplakia and Cancer of the Vulva, Arch. Dermat. & Syph. **21**:431 (March) 1930; (*f*) Malignant Tumors of the Vulva and Vagina, in Nelson New Loose-Leaf Surgery, New York, Thomas Nelson & Sons, 1932, vol. 7, p. 655.

4. Gårdlund, Waldemar: Studien über Kraurosis vulvae unter besonderer Berücksichtigung ihrer Pathogenese und Aetiologie, Arch. f. Gynäk. **105**:317, 1916.

5. Oppenheim, M.: Kraurosis Vulvae (Breisky), in Jadassohn, J.: Handbuch der Haut- und Geschlechtskrankheiten, Berlin, Julius Springer, 1931, vol. 8, pt. 2, p. 546.

6. Graves, W. P., and Smith, G. Van S.: Kraurosis Vulvae, J. A. M. A. **92**: 1244 (April 13) 1929.

7. Counseller, V. S.: Leukoplakic Vulvitis or Kraurosis Vulvae; Its Relation to Carcinoma and Its Surgical Treatment, Minnesota Med. **14**:312 (April) 1931.

8. Rentschler, C. B.: Primary Epithelioma of the Vulva: An Analysis of Seventy-One Cases, Ann. Surg. **89**:709 (May) 1929.

9. Mueller, Selma C.: Leukoplakia Vulvitis, Proc. Staff Meet., Mayo Clin. **6**:5 (Jan. 7) 1931.

10. Terruhn, E.: Kraurosis vulvae, Arch. f. Gynäk. **134**:578, 1928; Leukoplakie und Kraurosis vulvae, ibid. **138**:318, 1929.

11. Frieboes, W.: Kraurosis vulvae, Dermat. Ztschr. **55**:345, 1928.

12. Brocq, L.: Contribution à l'étude du kraurosis vulvae, Ann. de dermat. et syph. **45**:578, 1915.

13. Jayle, F.: Le kraurosis vulvae, Rev. de gynéc. et de chir. abd. **10**:633, 1906. Jayle, F., and Bender, X.: La leucoplasie de la vulve, du vagin et de l'uterus, Rev. de gynéc. et de chir. abd. **9**:963, 1905; Kraurosis et leucoplasie vulvaire, ibid. **14**: 523, 1910.

14. Darier, J.: Précis de dermatologie, ed. 4, Paris, Masson & Cie, 1928, pp. 276, 465 and 994.

15. Gans, Oscar: Histologie der Hautkrankheiten, Berlin, Julius Springer, 1925, vol. 1, pp. 38 and 245; 1928, vol. 2, p. 384.

This article is based on pathologic studies of ten of thirteen cases in which the pudendal nerves were sectioned and of ten cases in which vulvectomy was performed. In many cases of both groups more than one specimen was taken for biopsy, so that more than four hundred sections were studied. Pieces of tissue were fixed both in solution of formaldehyde and in alcohol, and sections were stained not only with hematoxylin and eosin, but with stains for elastic and connective tissue, for iron, for melanin, for mucin, for *Gitterfäsern* (reticulum fibers) and for nerve tissue. The normal histologic characteristics of the vulvas were studied in several cases. Sections from eight typical cases of leukoplakia of the mouth and from six cases of pruritus ani (five previously reported [16]) were studied; also, the histopathologic characteristics in several cases of kraurosis and leukoplakia of the penis [17] and in various forms of dermatosis involving the so-called mucous membranes of the mouth and vulva. Clinically, in the last three years we have seen many cases of pruritus vulvae and several cases of leukoplakia and kraurosis vulvae in which, for various reasons, operation was not performed.

NORMAL ANATOMY AND HISTOLOGY OF THE VULVA

In the interpretation of pathologic changes of the vulvar parts one must realize that marked variations exist in their normal anatomy and histology. Taussig called attention to the wide variations in the appearance and relative size of the various vulvas in puberty, in nulliparas and in multiparas and in the stage after the menopause; and Gårdlund gave a detailed description of the normal histology. The major portion, or in many cases all, of the inner surface of the labia minora is true skin and not mucous membrane. It presents a definite stratum granulosum, but differs from the skin of the labia majora or thighs in that the rete ridges and papillary bodies are irregular; moreover, collections of lymphocytes in the papillary bodies and about the dermal appendages are frequently seen; distinction between the stratum papillae and stratum reticulare of the cutis is not sharp, and the blood vessels in the cutis are prominent, often dilated, and filled with leukocytes. There is no sharp dividing line between true skin and mucous membrane. The perineum and often portions of the labia minora contain no sebaceous glands and only remnants of sweat glands. The elastic tissue is normal except in senile atrophy of the vulva. We should add that the thickness of the epidermis in various portions of the vulva varies considerably. As the result of

16. Buie, L. A.: Proctoscopic Examination and the Treatment of Hemorrhoids and Anal Pruritus, Philadelphia, W. B. Saunders Company, 1931, p. 149.

17. Genner, Viggo, and Nielsen, J.: Leucokeratosis and Kraurosis of Penis, Acta dermat. venereol **12**:195, 1931.

edema from pregnancy or trauma the histopathologic picture may be altered considerably, not so much with regard to the epidermis as with regard to the vascularity and thickness of the cutis. It is desirable, therefore, if possible, when taking a specimen for biopsy in any of the conditions under consideration, to include a portion of adjacent, relatively normal skin.

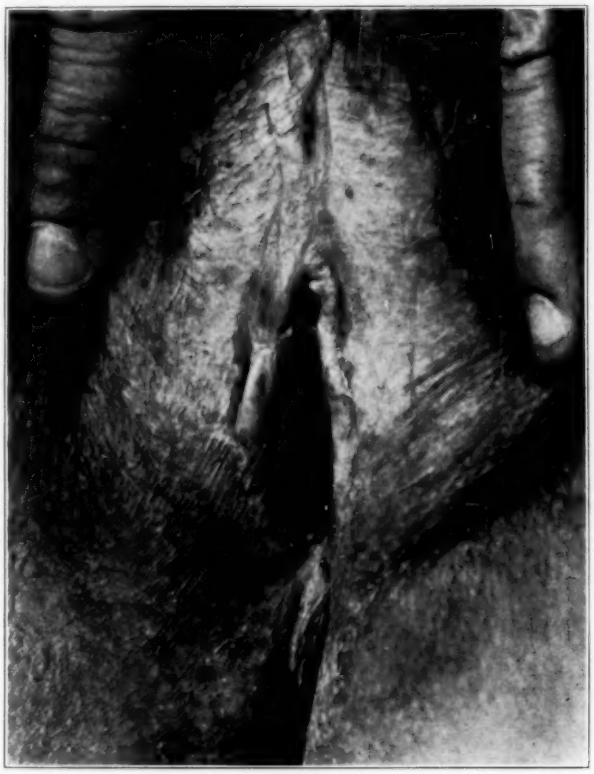

Fig. 1.—Kraurosis vulvae, early leukoplakia of the edges of the labia minora and lichenification of the skin of the groin and about the anus.

A word must be said regarding the confusion in histologic terminology that exists in the literature on diseases of the vulva which has resulted in an inaccurate interpretation of various articles. As the result of lack of clarity in some of the older textbooks on dermatology and pathology, some gynecologists, both in this country and in France, have referred to cells of the stratum granulosum as containing eleidin, and have spoken of this layer as the stratum lucidum, and have even referred to the granular zone or layer when actually they were referring to the prickle cell layer. Eleidin which is found in the stratum lucidum can

be demonstrated only by special stains.[18] The accepted terminology is given in the old or newer textbooks on dermatohistopathology and the more recent textbooks on dermatology and histology.

The clinical features of kraurosis vulvae, early leukoplakia of the margins of the labia minora and pruritus with lichenification (neurodermatitis) about the anus and groin are shown in figure 1, and the various histopathologic pictures of the three conditions are shown in figures 2 to 5, which will be referred to later in the reports of cases. We shall first define, clinically and pathologically, what we mean by kraurosis vulvae, leukoplakia of the vulva and pruritus vulvae with lichenification, recognizing that in many cases all may be superimposed on one another. Differential diagnosis from other conditions will be considered separately with each condition.

KRAUROSIS VULVAE

Darier[14] concisely defined kraurosis and distinguished it from other conditions as follows:

> The term kraurosis (Breisky), the meaning of which is sufficiently vague, has been defined, due chiefly to the work of Jayle, and should be reserved to a sclerosing progressive atrophy of the mucocutaneous teguments of the vulva, leading gradually to stenosis of the vaginal orifice, the disappearance of the labia minora, the frenulum and the clitoris and flattening of the labia majora. The mucosa of the parts involved is always smooth, shining and dry. The color is white, waxy yellow, red, or spotted. Complication by leukoplakia is frequent. In such a case cancer is to be feared. The exclusive or principal pathologic condition in kraurosis appears to be the depression of the ovarian functions by senile involution, by sclerosing atrophy or by castration. Syphilis apparently plays a rôle in certain cases. One must not confuse kraurosis with simple vulvar leukoplakia or with whitish coloration of the vulva from lichenification which results in pruritus vulvae of long duration.

Thibierge,[19] following Jayle's classification, listed the following: (1) leukoplakic kraurosis or white kraurosis, of the simple and syphilitic types; (2) inflammatory or red kraurosis, of the follicular and vascular types; (3) kraurosis senilis, and (4) postoperative kraurosis. We believe the cases in his group 1 to be essentially leukoplakia, and his group 2 and also some cases in his group 4 to be examples of true kraurosis. We agree with Taussig that group 3 may simply represent senile atrophy of the vulvar parts without the histologic changes of kraurosis vulvae, but rather with those of senile atrophy of the skin. The same holds true for many cases in group 4. Gårdlund justly emphasized edema of the vulva as a prodromal symptom of kraurosis vulvae, a fact which

18. Unna, P. G.: Histochemie der Haut, Leipzig, Franz Deuticke, 1928, p. 61.

19. Thibierge, Georges: Etude clinique sur le kraurosis vulvae, Ann. de dermat. et syph. **39**:1, 1908.

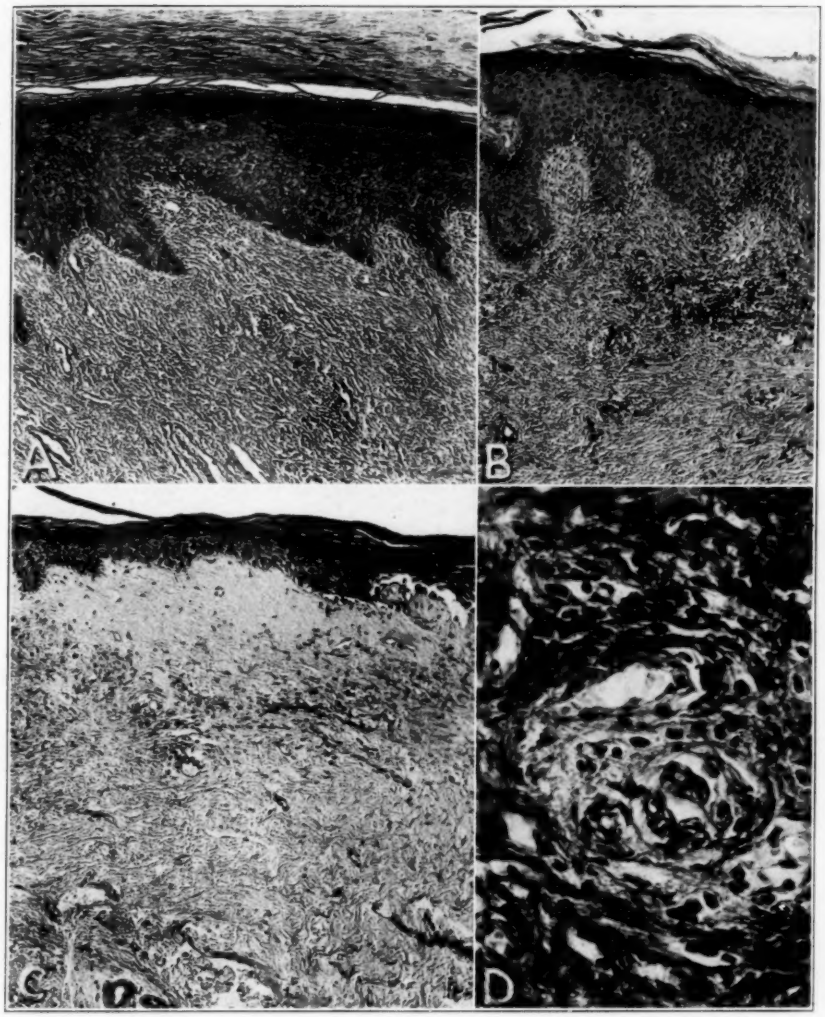

Fig. 2.—Multiplicity of histopathologic pictures, seen in case 2, in two specimens taken for biopsy from the labia minora. *A*, histologic picture of the quiescent stage of leukoplakia, but consistent with the hypertrophic stage of kraurosis. *B*, the same area as that represented in *A*, fifteen days after resection of the pudendal nerves. The lack of hyperkeratosis, the liquefaction necrosis of the basal cell layer and the inflammatory reaction in the cutis may be noted. *C*, sections taken after operation from the area adjacent to that represented in *B*, presenting a characteristic picture of kraurosis vulvae. *D*, postoperative degenerative changes in a nerve bundle; van Gieson stain.

is amply supported in the histopathologic observations. In the early stages of kraurosis little atrophy of the vulvar parts is apparent clinically, and there may be no stenosis of the vaginal orifice. Vitiligo of the labia has been reported in several cases; in others there is some increase in pigmentation. Kraurosis rouge may closely simulate mild radiodermatitis, but lacks the sharp boundaries of the latter. Even in marked cases of kraurosis the process rarely extends to the labia majora, but remains confined to the true mucous membranes, including the perineum, and to the clitoris and labia minora. Involvement of the outer surfaces of the labia majora, of the anus or of the inner aspects of the thighs usually signifies secondary pruritus with lichenification.

The histopathologic changes in kraurosis vulvae are as follows: In the earliest stage there is dilatation of the lymphatic structures and lymph spaces in the pars papillaris, without any disturbances of the rete ridges or any homogenization of the connective tissue. In a short time, however, the typical picture of kraurosis is seen (figs. 2 *C* and 4 *B*). This consists of: relative, and often absolute, hyperkeratosis; preservation of, or even an increase in, the normal number of layers of the stratum granulosum; marked atrophy of the prickle cell layer; liquefaction necrosis of the basal cell layer, with varying but spotted melanin pigmentation (the pigment being found in dendritic or basal cells of the epidermis and in chromatophores in the cutis); an area of edema just beneath the epidermis, lymphatic in origin and representing a transudate of serum, with edema and homogenization of the connective tissue fibers; obliteration of the rete ridges as the result of the edema; homogenization of the connective tissue in the upper portions of the cutis; a diffuse but more frequently perivascular infiltrate in the midcutis composed of lymphocytes and occasional mast cells, later of fixed connective tissue cells; a varying degree of atrophy of the dermal appendages, and relatively little change in the deep portions of the cutis or in the subcutaneous tissues. Stains for iron and mucin give negative results. No bacteria are demonstrable. As a result of the edema just beneath the epidermis the elastic tissue is separated from the epidermis but still remains present in normal amounts, although often it is frayed and splintered. In a late stage a varying degree of retention of nuclei in the stratum corneum (parakeratosis) may be seen associated with the hyperkeratosis. The elastic tissue is still preserved.[15] Atrophy of the subcutaneous tissue, especially of the fat in the labia majora, has been described in many reports. Sclerosis of the deeper blood vessels may occur. Kraurosis vulvae of the true mucous membranes presents a picture similar to that just described, except for the absence of the stratum granulosum and the presence of nuclei in the stratum corneum.

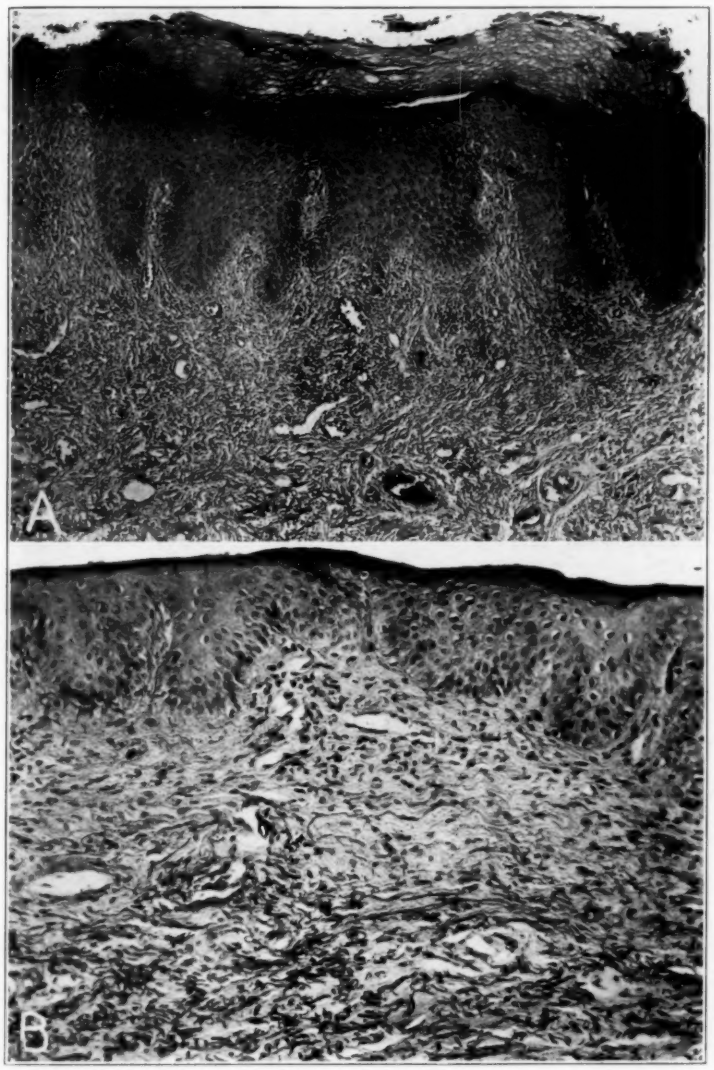

Fig. 3 (case 7).—*A*, typical histologic picture of leukoplakia of the labia minora, showing hyperkeratosis, an increase in the stratum granulosum, acanthosis and a perivascular infiltrate in the cutis; hematoxylin and eosin. *B*, same area; specimen taken after operation. A lack of hyperkeratosis and lack of thickening of prickle cell layer may be noted, although dilatation of the capillaries persists. The destruction of the elastic tissue in the upper part of the cutis is the result of edema; elastin H stain; × 125.

An end-stage of scar tissue has been described, with loss of subcutaneous tissue, obliteration of the lumen of the blood vessels throughout the cutis, and a flattened, atrophic epidermis. In two of our cases of kraurosis there was a histologic picture simulating this end-stage, but with a marked inflammatory reaction in the cutis simulating granulation tissue, together with liquefaction necrosis of the basal cell layer. In both cases there was a question, both clinically and pathologically, of adjacent areas of leukoplakia, and in one case there were adjacent areas in which the typical histologic changes of kraurosis were seen. For the present it is difficult to classify this picture, to know whether it represents the merging of early stages of kraurosis and leukoplakia or merely an end-stage of either. At least it is not diagnostic of either. The same holds true for the so-called hypertrophic stage of kraurosis vulvae (fig. 2*A*) which presents the features of a quiescent or noninflammatory stage of leukoplakia; it may well be the latter.

The histopathologic picture of kraurosis vulvae is essentially that of an atrophic process. Simple, senile atrophy of the vulva presents changes similar to those seen in senile atrophy of the skin, consisting not only of uniform atrophy of the various layers of the epidermis, with flattening of the rete ridges, but also of merging of the elastic and connective tissues in the cutis. Lichen sclerosus and atrophicus may duplicate the histologic and even the clinical picture of early kraurosis, but they are readily distinguished by lesions elsewhere on the body.[20] The same holds true for atrophic forms of lichen planus and certain stages of morphea. Oppenheim referred to the similarity, histologically, of kraurosis vulvae to acrodermatitis chronica atrophicans, but the only points in common are the atrophic changes in the cutis. Syphilitic lesions of the vulva present entirely different clinical and histologic pictures, and we have not seen a case of kraurosis that could be attributed to syphilis. As the result of liquefaction necrosis of the basal cell layer, which contains the pigment forming cells of the epidermis, it is not surprising that loss of pigment of the parts may result. This is not exactly comparable to vitiligo of the skin or to coincidental involvement of the vulva, because true vitiligo simply represents a loss of the formation of pigment, without atrophy and with little, if any, inflammatory reaction. The histologic changes in the terminal stages of kraurosis are not fundamentally different from the atrophy resulting from roentgen-ray dermatitis. The development of keratosis or subsequent malignant change has frequently been described in roentgen-ray dermatitis.

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20. Ormsby, O. S., and Mitchell, J. H.: Lichen Planus Atrophicus et Sclerosis and Kraurosis Vulvae, Arch. Dermat. & Syph. **5**:786 (June) 1922. Montgomery, Hamilton, in discussion on Madden, J. F.: Kraurosis Vulvae, Arch. Dermat. & Syph. **29**:442 (March) 1934.

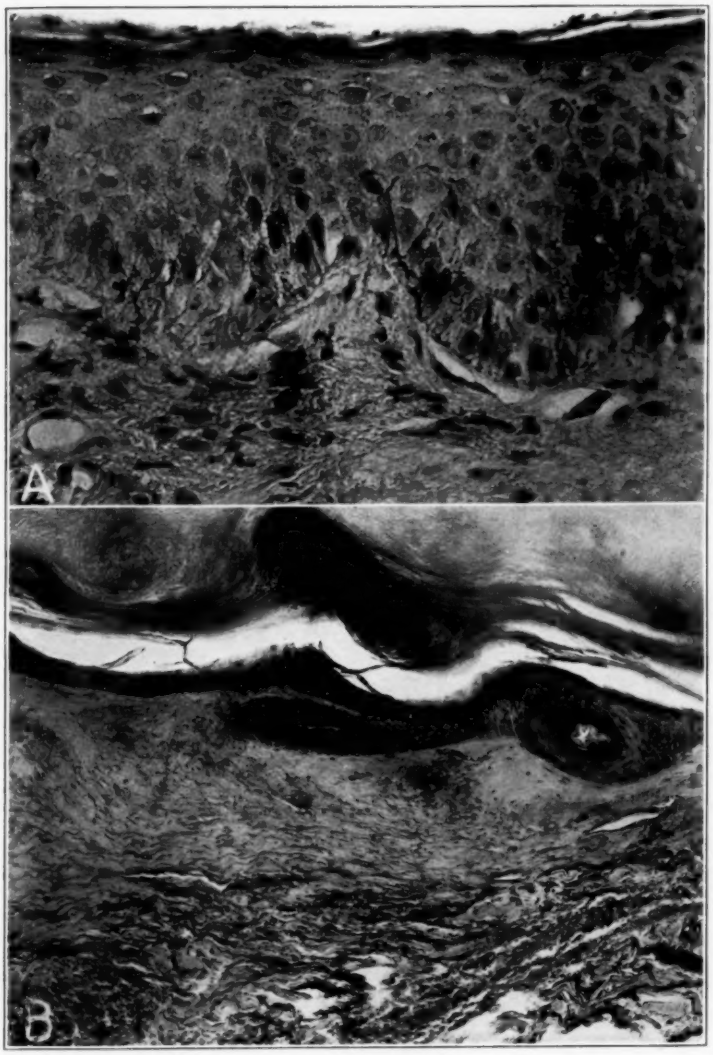

Fig. 4 (case 7).—*A*, specimen taken after operation to show the melanin pigment in the basal and dendritic cells of the epidermis and in the chromatophores of the cutis; hematoxylin and silver nitrate stain; × 310. *B*, specimen representing a typical case of kraurosis vulvae. Relative and absolute hyperkeratosis, atrophy of the prickle cell layer and a collection of lymphocytes in the lower left corner may be noted. The elastic tissue is preserved even in the upper part of the cutis, except where edema or homogenization of the connective tissue is seen just beneath the epithelium; elastin H stain; × 85.

A similar process probably takes place in kraurosis vulvae, although we have yet to see this occur independent of an area of leukoplakia. Taussig spoke of cancer developing in 50 per cent of his cases of leukoplakic vulvitis in which the patients were followed over a long period of years; he said that in 60 per cent of the cases the malignant change took place in an early hyperplastic area and that in 40 per cent it took place in an area of atrophy.

LEUKOPLAKIA VULVAE

The term leukoplakic vulvitis has been used by many authors to include both leukoplakia and kraurosis of the vulva, especially when the two are seen together. We wish to confine the term leukoplakia of the vulva to lesions presenting the morphologic, clinical and histopathologic features comparable to leukoplakia of the mouth. Terruhn has objected to the term leukoplakia, because the vulva is covered by skin and not by mucous membrane, yet in our experience many cases of leukoplakia of various portions of the mouth present a definite stratum granulosum and no nuclei in the stratum corneum.[21] Clinically, leukoplakia of the vulva may occur as single or multiple discrete plaques involving the inner surfaces of both labia, the perineum and the clitoris, or the vaginal mucosa; occasionally there is diffuse involvement of all these areas. Leukoplakia is prone to occur near the clitoris and on the perineum and inner surfaces of the labia minora, areas in which pruritus is usually most intense. In our experience leukoplakia does not extend to the outer surfaces of the labia majora or to the anus, although Taussig [3a] definitely cited one case in which, after vulvectomy for carcinoma of the labia, an area of leukoplakia developed near the upper anal margin and proved to be malignant. Buie [22] stated that he had never seen an epithelioma develop as the result of pruritus ani with or without lichenification, except as the aftermath of radiodermatitis. Leukoplakia of the vulva may be described clinically, whether occurring as striae, plaques or diffuse involvement, as being grayish to bluish, with a thickening of the skin or mucous membranes, presenting accentuation of the normal lines of cleavage of the skin without any appreciable scaling. There is usually no soggy, white appearance as is seen in pruritus with lichenification. As the leukoplakic process progresses, the epidermis becomes markedly thickened, so that many authors have used the term leukokeratosis rather than leukoplakia. Fissures or ulcerations may appear, both of which are strongly indicative of malignant change.

The histopathologic change in leukoplakia of the vulva or of the mouth and tongue is essentially a hypertrophic process and may be described as follows: In the early stages, except in those cases in which

21. Mekie, D. E. C.: Buccal Carcinoma, Am. J. Cancer **16**:971 (Sept.) 1932.
22. Buie, L. A.: Personal communication to the authors.

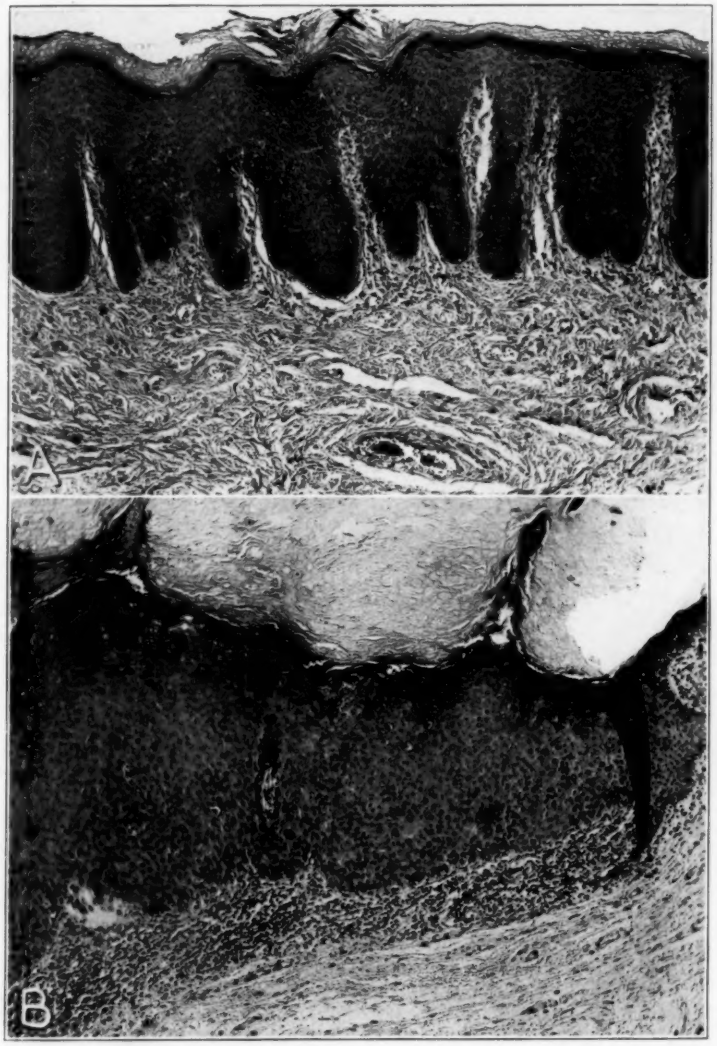

Fig. 5.—*A* (case 4), characteristic picture of neurodermatitis of the vulva. An area of parakeratosis appears at *x*, with regular acanthosis, papillomatosis, dilated capillaries and a sparse infiltrate. *B*, a specimen from a case of leukoplakia of the vulva. Histologic examination revealed a squamous cell epithelioma in situ, graded 2, simulating Bowen's disease, including clumping of the cells and dyskeratosis.

true mucous membrane is involved, hyperkeratosis, an increase in the stratum granulosum, acanthosis (thickening of the prickle cell layers) and relatively little infiltrate or change in the cutis occur. This is in accord with the views of one of us (Montgomery) in contradistinction to those of many writers that the primary changes in leukoplakia or even in keratoma senile occur in the epidermis and not as sequelae of the inflammatory changes in the cutis. As stated previously, these early changes may be indistinguishable from the so-called hypertrophic stage of kraurosis. The elastic tissue may be frayed and splintered, but is not destroyed. Shortly, however, one sees a perivascular as well as a diffuse infiltrate, composed chiefly of lymphocytes, in the upper portions of the cutis, with varying degrees of liquefaction necrosis of the basal cell layer. Dependent on the degree of infiltrate in the cutis, a varying degree of destruction of the elastic tissue may result, and different degrees of fibrosis with obliteration of the lumens of the superficial vessels may be seen. The sequence of events is similar to what one of us (Montgomery [23]) has described for senile keratosis of the true skin; the only difference is that there is less hyperkeratosis, and because of the vascularity of the parts involved there are more edematous changes both in the epidermis and in the cutis. Again, no evidence of hemosiderin, mucin or bacteria was demonstrable.

Leukoplakia of the vulvar parts may be difficult to distinguish on histopathologic grounds alone from either lichen planus or subacute lupus erythematosus, but in practically all these cases there are associated lesions not only in the skin but also in the mucous membranes of the mouth. Syphilis has for many decades been accused as the primary or secondary factor in leukoplakia of the mouth.[24] In two of our cases of leukoplakia of the vulva in which there was a history of syphilis, antisyphilitic treatment had no effect, and at vulvectomy no evidence of syphilis was demonstrable pathologically. We believe that leukoplakia of the vulva as the result of syphilis is a rare occurrence. Thrush or other infections of the vulva with Monilia are more superficial in character and present an entirely different histopathologic picture. We have seen involution of leukoplakic areas following section of the pudendal and perineal nerves, so that pruritus and scratching or other trauma must play a prominent or secondary part, as they do in leukoplakia of the mouth associated with the smoking of a pipe. Other factors regard-

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23. (*a*) Montgomery, Hamilton: Superficial Epitheliomatosis, Arch. Dermat. & Syph. **20**:339 (Sept.) 1929. (*b*) Montgomery, Hamilton, and Dörffel, Julius: Verruca senilis und Keratoma senile, Arch. f. Dermat. u. Syph. **166**:286 (Sept. 22) 1932.

24. Hazen, H. H., and Eichenlaub, F. J.: Leukoplakia Buccalis, J. A. M. A. **79**:1487 (Oct. 28) 1922. Fox, Howard: Leukoplakia Buccalis: Observations Based on a Study of Forty Cases, J. A. M. A. **85**:1523 (Nov. 14) 1925.

ing the etiology of leukoplakia of either the vulva or the mouth remain to be determined. We do not believe that leukoplakia of the vulva eventuates in kraurosis, but rather that the two conditions may appear side by side in the same patient. Gans [15] definitely distinguished between the two conditions on histopathologic grounds.

PRURITUS VULVAE WITH LICHENFICATION

We have seen many cases of pruritus vulvae in which there were no macroscopic changes of the vulva except for a few excoriations. Constant and persistent pruritus usually results in lichenification, most frequently of the outer aspects of the labia majora, about the pubic hairs, the inner aspects of the thighs and frequently also the anus. At times, however, the process may involve the inner surfaces of both labia, the clitoris and the perineum. Clinically, and also histopathologically, this reaction does not differ fundamentally from localized neurodermite of the nape of the neck or lichen Vidal of the flexor surfaces.[25] One finds discrete single, diffuse single or multiple plaques of thickening of the skin, with accentuation of the normal markings of the skin. The color is that of the skin, or slightly grayish. No appreciable scaling is present. When moisture is present, as it is about the anus or the inner surfaces of the vulva, the process assumes a whitish, soggy appearance.

Histopathologically, pruritus vulvae with lichenification is comparable to neurodermite [15] and to pruritus ani. Figure 5 *A* is representative. There are hyperkeratosis alternating with parakeratosis, acanthosis with prolongation of the rete ridges, elongation of the papillary bodies and a mild, perivascular, chiefly lymphocytic infiltrate in the upper part of the cutis, together with some dilatation of the superficial vessels. The infiltrate in neurodermite is usually much less marked than in either kraurosis vulvae or leukoplakia. No liquefaction necrosis of the basal cell layer is present. The elastic tissue is preserved even in the papillary bodies. When involution results following cessation of the pruritus, the histopathologic picture may simulate somewhat that shown in figure 2 *B*, following section of the pudendal nerves. There is more parakeratosis, the acanthosis is diminished or absent, the rete ridges and papillary bodies are flattened and some liquefaction of the basal cell layer is seen. There are no appreciable changes in either connective or elastic tissue, for neurodermatitis rarely results in atrophy, either clinically or histopathologically. Neurodermatitis is essentially a benign inflammatory dermatosis that per se does not eventuate in malignancy.

25. Ormsby, O. S.: Neurodermatitis and Lichenification, Pennsylvania M. J. **36**:231 (Jan.) 1933.

The histopathologic picture of neurodermatitis of the vulva is readily distinguished from eczema or dermatitis venenata by the lack of intercellular edema of the prickle cell layer or of the resulting formation of vesicles. Psoriasis and seborrheic dermatitis present lesions elsewhere and differ in their clinical and histopathologic features. The scratch papule or excoriation, as depicted ably by Civatte,[26] whether involving the superficial layers of the epidermis or extending to the cutis, presents a different histopathologic picture. Trichophytic involvement of the labia clinically presents a scaling or vesicular border; the trichophyton fungi are readily demonstrable in scrapings studied with potassium hydroxide and may even be seen histopathologically. Thrush and other infections of the vulva with Monilia and Trichomonas vaginalis are readily ruled out by smears and cultural studies as well as by their superficial character clinically and by a different pathologic picture. Eruptions caused by drugs, such as phenolphthalein, and erythema multiforme or pemphigus present different clinical and pathologic pictures.

The etiology of pruritus vulvae, excluding leukorrhea or other forms of dermatosis, is similar to that described by one of us (Montgomery) for pruritus ani and is probably on a neurogenic or functional basis, although in some cases there is probably an endocrine factor. In many of the cases of pruritus vulvae, there is a neurodermite elsewhere on the body, again suggesting the neurogenic origin. Gårdlund favored a functional neurologic origin for kraurosis or leukoplakia of the vulva, and Frieboes regarded both as resulting from neurodermatitis plus scratching, a point of view for which we find insufficient evidence.

EARLY MALIGNANT CHANGE OF THE VULVA

Epithelioma of the vulva may possibly develop in an area of kraurosis, frequently in an area of leukoplakia, and often independent of either. Taussig and others have given figures regarding the relative frequency of occurrence and the varying types and grades of malignancy seen when different portions of the vulva or clitoris are involved, or regarding carcinoma of the glands of Bartholin. We are concerned here with the recognition of early epithelioma in situ [27] and with cases reported as instances of the precancerous dermatosis of Bowen or as extramammary Paget's disease. We are still of the opinion, as stated in a previous paper by one of us (Montgomery [23a]), that most, if not all, cases reported as instances of extramammary Paget's disease of the vulva have presented the histologic features of epithelioma in situ or

26. Civatte, A.: Prurigos et grattage, Ann. de dermat. et syph. **7**:142 (March) 1926.

27. Broders, A. C.: Carcinoma in Situ Contrasted with Benign Penetrating Epithelium, J. A. M. A. **99**:1670 (Nov. 12) 1932.

Bowen's disease [28] or of glandular carcinoma. Drake's case of Paget's disease of the vulva may be a possible exception.[29] The histopathologic picture of Bowen's disease is not diagnostic,[30] but may be simulated by or even duplicated by, senile keratosis, roentgen-ray dermatitis, arsenical keratosis and experimental tar cancer. In none of the cases reported have the clinical features originally described by Bowen been evident. We believe that most, if not all, cases of epithelioma in situ of the vulva, including so-called Bowen's disease, arise from existing areas of leukoplakia, and that leukoplakia is closely comparable to senile keratosis of the skin, which later frequently presents a similar picture. Clinically, the "erythroplasie" of Querat,[31] which we believe is synonymous with the term of Darier and Fournier,[14] "épithéliome papillaire nu," might well be designated as an early malignant state of leukoplakia or of leukokeratosis. Histologically this condition may be a frank, penetrating, squamous cell epithelioma or an epithelioma in situ.

The histologic picture of epithelioma in situ, or of so-called Bowen's disease, is characterized by a disorderly arrangement of the prickle cells, with the phenomenon of keratinization of individual cells, giant epithelial cells with or without mitosis, and clumping of nuclei to form giant cells as the result of amitotic cellular division. There is a varying degree of hyperkeratosis and of parakeratosis of the stratum corneum, with a perivascular lymphocytic infiltrate in the upper portions of the cutis. While the basal cell layer remains intact, there is justification for regarding the lesion as precancerous, especially as regards senile keratosis of the skin, which may remain as such for many years without appreciable change. In leukoplakia, however, when this histologic malignant change in situ is seen, it leads shortly to a break in the basal cell layer and to localized or invasive squamous cell epithelioma, graded 2 or 3. In figure 5 *B* the basal cell layer is destroyed and the lesion is already a squamous cell epithelioma, graded 2, in situ.

Three of the ten cases in which vulvectomy was performed because of a possible malignant change presented the typical picture of epithelioma in situ, so that it cannot be regarded as a rare occurrence. It is

28. Rousset, J.: Les dyskératinisations épithéliomateuses, Paris, Masson & Cie, 1931.

29. Drake, J. A., and Whitfield, Arthur: Paget's Disease of the Vulva, with Account of the Histology, Brit. J. Dermat. **41**:177 (May) 1929.

30. Hudelo, Lucien, and Cailliau: La maladie de Bowen des muqueuses envisagée comme cancer d'emblée, Ann. de dermat. et syph. **7**:813 (Sept.) 1933. Block, Bruno: Cancers and Precancerous Affections from the Dermatological Viewpoint, Cancer Rev. **7**:65 (Feb.) 1932.

31. Touraine, A.; Renault, P., and Hesse, J.: Erythroplasie vulvaire en éléments multiples avec kraurosis et leucoplasie, Bull. Soc. franç. de dermat. et syph. **39**:655 (June) 1932.

important, conversely, not to confuse pseudo-epitheliomatous hyperplasia [32] with true malignancy. Fungating lesions of the vulva, as in blastomycosis or bromoderma, and the margins of lesions of tertiary syphilis or lymphogranuloma inguinale may show pseudo-epitheliomatous hyperplasia.

RESECTION OF THE SENSORY NERVES OF THE PERINEUM

The technic of sectioning the pudendal, perineal and other nerves of the vulva has been described by Learmonth. The following is a further report of the original seven cases previously reported, with two others that we have observed for a year or more. In the remaining four cases of the total of thirteen, operation has been performed too recently to permit evaluation of the results. In one of these cases, however, which was classified as an instance of pruritus and leukoplakia of the vulva with no involvement of the anus or thighs, the pruritus was not relieved four months later, although at the time of dismissal of the patient after operation neurologic examination had revealed definite anesthesia of the vulva. In all thirteen cases, from ten to seventeen days after operation there was definite anesthesia of the vulvar parts, graded 2 to 3, to touch, pain and temperature. Furthermore, in none of the cases was operation performed except after the patient had had severe and persistent pruritus for many months or years, which had not been relieved by local measures, including in many cases treatment with roentgen rays or radium. For the most part specimens for biopsy were taken from areas in which thickening of the skin was apparent, in the hope of detecting early malignant change. In four of the nine cases specimens for biopsy were taken after operation as well as at operation; in two of the cases a study of tissue was not made. For details of the first seven cases the reader is referred to the first paper.[1] Further study has resulted in a modification or amplification of the original pathologic diagnosis given in that paper. In several cases the presence of two or even three of the conditions cited in the title has made pathologic diagnosis more difficult.

REPORT OF CASES

CASE 1.—A woman, aged 45, who had had four children and had undergone partial hysterectomy in 1928, was subjected to section of the pudendal nerves on Nov. 13, 1930. The clinical diagnosis was kraurosis vulvae and beginning leukoplakia near the fourchet. A biopsy specimen from the area near the fourchet revealed the histopathologic picture of a quiescent stage of leukoplakia, but consistent with the hypertrophic stage of kraurosis. In one area the histopathologic picture was suggestive of neurodermatitis and a scratch papule. This patient

32. White, Cleveland, and Weidman, F. D.: Pseudo-Epitheliomatous Hyperplasia at the Margins of Cutaneous Ulcers with Especial Reference to Histologic Diagnosis, J. A. M. A. **88**:1959 (June 18) 1927. Broders.[27]

obtained complete relief from symptoms for more than two years, when pruritus and tenderness returned about the clitoris and labia, together with ulceration. In June, 1933, vulvectomy was performed elsewhere. Sections taken at operation revealed a typical histologic picture of kraurosis, but in one area the condition was a hypertrophic stage of kraurosis, or possibly quiescent leukoplakia. The ulcer revealed a nonspecific inflammatory reaction without evidence of malignant change. There was some increase in the tortuosity of the bundles of cutaneous nerves in the cutis.

CASE 2.—A woman, aged 49, who had had six children and whose menopause had occurred three years before underwent section of the pudendal nerves in November, 1930. The clinical diagnosis was pruritus vulvae. The multiplicity of histologic changes is shown in figure 2 *A* to *D*. The specimen for biopsy, taken at operation from the labia minora, near the clitoris, presented the picture of quiescent leukoplakia or hypertrophic kraurosis (fig. 2 *A*). Fifteen days later a specimen taken for biopsy from the same area revealed definite involution of the hyperkeratosis and liquefaction necrosis of the basal cell layer (fig. 2 *B*). Yet adjacent to this area was the typical picture of kraurosis (fig. 2 *C*). In a specimen taken after the operation, degenerative changes were seen in the cutaneous nerves (fig. 2 *D*), and neurologic examination revealed definite anesthesia of the vulva. Yet the patient failed to obtain even temporary relief from the pruritus. A recent letter of inquiry was not answered. In view of subsequent observations (case 8) it seems likely that the pruritus persisted because of psychoneurotic, marital or other neurogenic factors.

CASE 3.—A woman, aged 61, who was divorced and had not had children, underwent section of the pudendal nerves in February, 1931, for pruritus of nine years' duration. The clinical diagnosis was kraurosis, leukoplakia and pruritus ani, with lichenification and excoriations of the groin, thigh and region about the anus (fig. 1). A histopathologic study of tissue from the labia minora revealed features of both kraurosis and leukoplakia. On examination, five months later, there was no evidence of leukoplakia or of scratch marks, and the patient had obtained complete relief from the pruritus. She did not answer a recent letter of inquiry.

CASE 4.—A woman, aged 49, who had had two children and whose menopause had occurred ten months before, had a condition which was diagnosed clinically, in July, 1931, as pruritus vulvae with slight kraurosis. Histologically, a section of the vulva disclosed neurodermite (fig. 5 *A*). Seven months after operation the patient reported the operation "a perfect success."

CASE 5.—A woman, aged 55, single, whose menopause had occurred one year before, had a condition which was diagnosed clinically, in July, 1931, as kraurosis vulvae with questionable leukoplakia. The histopathologic diagnosis at operation was the same, together with fibrosis in the cutis. A section taken fifteen days after operation revealed diminution in the inflammatory reaction in the cutis. Immediate relief was obtained after operation. Two years later she stated that dermatitis of the groin (not noted when she had been at the clinic) finally had cleared up after application of a patent salve. The patient did not complain of pruritus of the vulva at this time.

CASE 6.—A woman, aged 40, who had had four children, was first seen at the clinic in August, 1931, when the clinical diagnosis was pruritus and actinodermatitis with ulcerations of the vulva, together with neurodermatitis of the neck. A section was not taken for biopsy. The patient was seen nine months later; all the ulcerations, some of which had been suggestive of malignant change, had disappeared, and she had obtained complete relief from itching, although a mild but definite degree of dermatitis from roentgen rays was still present.

CASE 7.—A woman, aged 55, who had had two children, and whose menopause had occurred thirteen years before, was first seen in August, 1931. Clinically the picture was that of kraurosis with ulceration. Histologically a section of the inner surface of the labia minora revealed the typical picture of leukoplakia (fig. 3 *A*). Seventeen days after operation there was a definite thinning of the epidermis (figs. 3 *B* and 4 *A*) with absence of hyperkeratosis, and the patient had obtained immediate postoperative relief from the itching. In May, 1933, however, the patient reported only partial relief from the pruritus.

CASE 8.—A woman, aged 56, was first seen in the clinic in February, 1932, because of pruritus vulvae of twenty-five years' duration. She also had pruritus ani with lichenification, actinodermatitis, graded 1, of the vulva and slight atrophy of the labia minora. There was no lichenification or kraurosis of the vulva. She also had seborrheic dermatitis of the ears and perlèche of the corners of the mouth. The histopathologic characteristics of a specimen taken from the vulva were not distinctive. A specimen, taken twelve days after operation, revealed thinning of the epidermis and subsidence of the inflammatory reaction. The patient obtained immediate postoperative relief from the pruritus. She returned ten months later, stating that she had had relief from the pruritus for only a month. Neurologic examination at this time, however, gave the same results as that made twelve days after operation: anesthesia to touch, graded *2*; to pain, graded *2* to *3*, and to temperature, graded *2*, on both sides of the labia. For the first time it became apparent that the patient was a psychoneurotic person, and further questioning revealed a history of an unhappy marriage together with fear of cancer. This case, therefore, cannot be regarded as one in which operation failed, but rather as one in which clinical judgment erred. The mild degree of actinodermatitis was still present, but probably played a minor part, as evidenced by the successful result in case 6.

CASE 9.—A woman, aged 34, was first seen at the clinic in September, 1925, because of an ulcer of the vulva of five years' duration. An epithelioma of the vulva was excised, and radium treatment was given. The patient returned in July, 1932, because of kraurosis with pruritus in addition to myxedema. The pudendal nerves were sectioned. Thirteen months later itching was completely relieved. Atrophy was still present clinically, but there was no evidence of leukoplakia. A specimen for biopsy was not obtainable.

Analysis of this small group of nine cases, observed for an average of about a year, and as long as three years, reveals the following data: In case 1 complete relief was obtained for more than two years, and then recurrence necessitated vulvectomy. In case 2 the treatment failed from the start, possibly because of psychoneurotic factors that were not elicited. In case 3 the result was probably successful. In case 4 "perfect success" was reported nine months after operation. In case 5 the result was successful two years after operation, except for the dermatitis in the groin, which could not be attributed to operative procedures. In case 6 the result was definitely successful nine months after operation. In case 7 only partial relief was present two years after operation. In case 8 the result of operation was successful ten months later, but the patient was not relieved, because of psychoneurotic factors. In case 9 the result was successful thirteen months after operation. Thus, in seven of nine cases operative results could be termed good

after about a year. From a three year standpoint, however, the success of the operation appears much less, and because we have been unable to obtain answers from several of the patients, it is difficult to evaluate the results. It is our preliminary impression, however, that in properly selected cases from 60 to 75 per cent of patients with pruritus vulvae and lichenification, kraurosis vulvae or leukoplakia of the vulva can be relieved of their pruritus or possibly of subsequent malignant change by resection of the pudendal and perineal nerves. The remaining 25 to 40 per cent require vulvectomy or psychiatric attention, or both. One must also bear in mind that in all these cases local applications, radiotherapy or injections of alcohol (in one case), had failed to relieve the pruritus. We believe, therefore, that resection of the pudendal and perineal nerves is warranted in carefully selected cases.

HISTOPATHOLOGIC STUDIES AFTER RESECTION

In four of the nine cases sections were taken, following operation, from an area about 1 cm. away from the area studied at operation. Whether kraurosis or leukoplakia was evident at operation, sections taken seventeen days after operation revealed: (1) diminution of the hyperkeratosis; (2) marked thinning of the prickle cell layer as the result of liquefaction necrosis of the basal cell layer, and (3) diminution in the inflammatory changes in the cutis. Definite degenerative changes in the peripheral nerves were observed in only one case. We believe, on the basis of preliminary studies, that section of the perineal and pudendal nerves may result in involution of an area of leukoplakia and thus may inhibit the development either of an epithelioma in situ or of an invading malignant squamous cell epithelioma.

CONTRAINDICATION TO RESECTION

In a preliminary report we definitely stated that resection of the pudendal or other nerves was contraindicated: (1) if there was clinical or histopathologic evidence of malignant change, and (2) if the patient was so obese that identification of the various nerves would be tedious and perhaps uncertain. To these we add three reservations: (3) actinodermatitis (radiodermatitis) of severity greater than grade 1, because these cases usually eventuate in malignant change; (4) epithelioma in situ (including so-called Bowen's disease or extramammary Paget's disease), and (5) psychoneurosis as exemplified in case 8. In other words, one must not only evaluate clinically and histopathologically kraurosis, leukoplakia or pruritus with lichenification of the vulvar parts but also psychic or neurogenic factors that may persist in causing pruritus in spite of definite postoperative anesthesia. The psychoneurotic factor is not always obvious on preliminary examination (case 8).

CONCLUSIONS

1. Kraurosis vulvae, leukoplakia of the vulva and pruritus with lichenification are usually distinguishable from one another on clinical and pathologic grounds. In many cases all three may merge, both clinically and pathologically.

2. It is the opinion that the multiplicity of clinical and pathologic pictures seen in many cases has resulted in confusion in terminology and in interpretation.

3. It is important to distinguish the three conditions. Kraurosis vulvae is an atrophic process which may possibly lead to malignant change. Leukoplakia of the vulva is a hypertrophic process, definitely a precancerous dermatosis, which frequently results in a malignant process. Pruritus vulvae with lichenification (neurodermatitis) is a benign form of inflammatory dermatosis which, per se, does not result in malignant change.

4. These conditions should be distinguished from other forms of dermatosis of the vulva.

5. Epithelioma in situ may be definitely recognized on the basis of histopathologic studies and is a contraindication to resection of the perineal nerves. It should not be termed Bowen's disease or extramammary Paget's disease. Vulvectomy in these cases is definitely indicated.

6. Resection of the pudendal, perineal or other nerves of the vulva is definitely contraindicated when malignant changes are evident either clinically or pathologically, or when actinodermatitis of severity greater than grade 1 is evident. In these cases vulvectomy is indicated.

7. Resection of nerves is also to be avoided in the presence of psychoneurosis or neurosis. Even vulvectomy in these cases will be attended with many failures.

8. Resection of pudendal nerves in all conditions other than specific forms of dermatosis or malignant change of the vulva is the operation of choice rather than vulvectomy for younger women before the menopause or after artificial (postoperative) menopause.

9. It is fundamentally important to evaluate clinical, pathologic and psychiatric evidence before operation, in either resection of the perineal nerves or vulvectomy.

10. Treatment with radium or roentgen rays in cases of persistent pruritus vulvae, due to any of the three conditions mentioned in the title, usually results in only temporary relief, and if persisted in may lead to actinodermatitis, and may subsequently result in epithelioma of a relatively high grade of malignancy.

Biography

CAMILLE MELCHIOR GIBERT

B. BARKER BEESON, M.D.
CHICAGO

Camille Melchior Gibert was born at Paris on Aug. 18, 1797, and died there on July 31, 1866, during an epidemic of cholera. During 1818 and 1819 he was an intern under Biett at the hôpital Saint-Louis. Gibert received the degree of M.D. in 1822 with a thesis entitled "Some Reflections on Modern Medicine." In 1825 he was given a gold medal by the Société de médecine pratique for the paper: "Do Traces of Inflammation Always Exist in the Abdominal Viscera After Putrid and Malignant Fevers? Is This Inflammation the Cause, the Effect or a Complication?" The next year he took first place in a competition for the position of professeur agrégé, defeating, among others, Trousseau, later the celebrated clinician. He apparently became Physician to the Hospitals of Paris in 1831, since Brodier,[1] in his splendid life of Alibert, stated that from 1831 to 1835 Gibert frequently substituted for Biett, Lugol and Manry at the Hôpital Saint-Louis. In 1833 he was unsuccessful in the competition for a chair of clinical medicine. On Jan. 26, 1836, the Lourcine (now the Broca) hospital was opened, and Gibert was its first physician. Four years later, on the retirement of Manry, he became connected with the Hôpital Saint-Louis to remain until 1863. In 1847 he became a member of the Academy of Medicine, defeating Trousseau by a large majority.

Brodier wrote that Gibert began the teaching of dermatology in 1827. As was often the case, he taught first in a private amphitheater and later at the Hospice of the Faculty. Soon after assuming his position at the Hôpital Saint-Louis he revived the celebrated open-air clinics of Alibert. Owing probably to his early contact with Biett, Gibert remained more or less of a Willanist but not to such a degree as Cazenave. He strayed from the fold to quite an extent in adopting a classification for the disorders of the skin which closely approached that of Rayer. While not an exponent of the rather declamatory style of Alibert, he was an excellent speaker.

Gibert is probably best remembered for his pioneer description of pityriasis rosea, which up to then (1860) had been confused with

1. Brodier, Léon: J. L. Alibert, Médecin de l'Hôpital Saint-Louis, 1768-1837, Paris, Norbert Maloine, 1923.

psoriasis and the eruption seen in secondary syphilis. He described this disease in the following terms:

> I have observed another variety of pityriasis, which can be designated by the name of pityriasis rosea and which presents the following characteristics: tiny, scaling spots, slightly colored, irregular, rarely exceeding a finger-nail in size, numerous and closely set, although always separated by healthy skin, and pruritic. These extend over the upper part of the body, preferably the neck, and the upper part of the chest and arms, but may spread downward in successive crops and reach the thighs, so that the total duration of the eruption, which effaces itself little by little in the original sites as it descends, may be prolonged usually for from six weeks to two months. This eruption is more common in women than in men and is seen frequently during the warm season of the year. It is usually seen in young persons and in persons whose skin is white, fine and delicate.

Ricord had zealously preached on every possible occasion the noncontagiousness of secondary syphilis. On Oct. 12, 1858, Auzias-Turenne, who may be remembered as the exponent of syphilization or vaccination against syphilis, wrote to the Minister of Agriculture, Commerce and Public Works, asking that he request the Academy of Medicine to settle the matter for all time. Accordingly, a commission was appointed, which included Velpeau, Ricord, Devergie, Depaul and Gibert, who acted as secretary. Gibert was selected to carry out the necessary experiments. He successfully inoculated three patients with lupus with pus or blood taken from lesions of a patient with secondary syphilis. The report of this commission was submitted on May 24, 1859, and adopted on May 31 of that year. It is said that Ricord accepted the contagiousness of secondary syphilis with reluctance.

Gibert originated the formula for a mixture of red mercuric iodide and potassium iodide, which is still in use as Gibert's syrup.

His work on dermatology first appeared in 1834. Subsequent editions came out in 1840 and in 1860. As a result of his work at the Lourcine Hospital Gibert wrote a practical manual on the venereal diseases in 1837. His other publications include: "Mémoire sur les syphilides" (1847), "Thérapeutique des maladies des femmes liées à un écoulement utérine" (1848), "Emploi médical de l'arsenic particulièrement dans les maladies de la peau et les fièvres intermittentes" (1850), "L'action thérapeutique des spécifiques mercuriels dans les maladies de la peau et la syphilis" (1846), "La prophylaxie de la syphilis" (1847) and "De l'iodure de potassium dans le traitement des affections syphilitiques" (1845). He also contributed to the *Medical Review,* the *Gazette des hôpitaux civils et militaires,* the "Encyclopedia of the Medical Sciences" and the "Medical Dictionary." He was a not infrequent contributor to the programs of the Academy of Medicine.

In Bretonneau's interesting correspondence, as published by Paul Triaire, appears a letter from Trousseau to his teacher, in which the following reference is made to Gibert:

> Do you know that Andral has just been made a professor at 30 years of age? He was my most redoubtable rival. I wished to take his hour and continue his course, but unfortunately he had already made arrangements with Gibert, who took first place in our *concours*. He is a young man who does not know pathologic anatomy and who has an extreme dread of hospitals and amphitheaters, but he speaks easily and with extraordinary charm. I have not heard of any one who starts out so well as he. He has but one fault, and I already know that it is a capital one: he is cold. The battle will begin between us in fifteen days, when Andral quits.

Both Besnier and Gaucher praised Gibert, particularly for his therapeutic contributions. Besnier added that he had taught the English doctrine of eczema with distinction after changing it somewhat. In Gaucher's opinion, Gibert was among the first to realize the importance of the parasitic diseases of the skin, as well as the value of microscopic studies of the integument. Hardy spoke of Gibert as being sad and unfortunate, with which view Caffe [2] differed, believing that Gibert was proud and was prone to harbor enmity toward those who offended him. This, Caffe stated, accounted for his rather harsh features and manner. Brodier [1] referred to him as a highly trained physician, of unusual intelligence, with an experienced sense of criticism, possessing great ability as a speaker and endowed with much tact and moderation.

It would appear that Gibert is entitled to a high rank among the dermatologists of France.

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2. Caffe, P. L. B.: Journal des connaissances médicales et pharmaceutiques, 1866. This brief article is the only biography of Gibert which I have found.

Obituaries

ABNER POST

1844—1934

Abner Post, who died in Cambridge, Mass., on April 20, 1934, was born in Westfield, Mass., on Aug. 9, 1844, the son of Sylvester Gilbert and Sarah Maria (Post) Langdon. When he was about 12 years of age his father died, and his grandfather, a man of stern New England principles and an individual of importance in the town, wished to have the boy live with him and to have his name changed to Post. These formative years spent in his grandfather's household made a deep impression on his character.

He prepared for college at Williston Seminary, and received his A. B. from Yale in 1866. An injury to the leg in infancy prevented his entering competitive college sports. His favorite exercise was rowing. The injury also prevented his enlisting in the army during the Civil War, and his inability to perform military service at this time was one of the great disappointments of his life. He was always interested in military affairs and collected many volumes on the history of the Civil War.

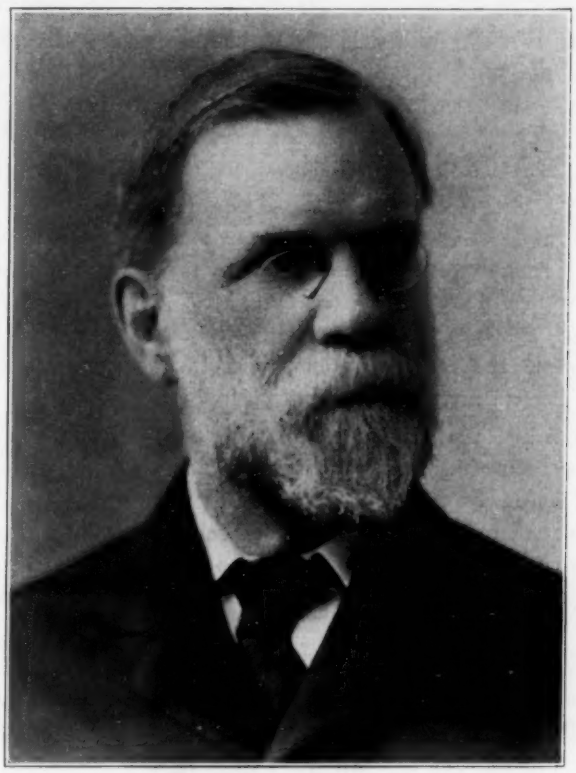
Following graduation, he entered the Harvard Medical School, receiving his M. D. in 1870. Then came a service as surgical house pupil at the Massachusetts General Hospital, where he came under the influence of Henry J. Bigelow and Richard Manning Hodges. The next two years were spent in study abroad, chiefly in Vienna. Returning to Boston, he entered the Marine Hospital at Chelsea, where he obtained a wide experience in the care of venereal diseases, as well as in general medical and surgical work.

In 1876, Dr. Post was appointed to the staff of the Boston Dispensary, where he was later associated with Dr. Francis B. Greenough, a dermatologist and syphilographer of wide reputation. Dr. Post continued on active duty at the dispensary until Jan. 1, 1914, when he was appointed a consultant.

He greatly enjoyed clinical teaching, and his clinic at the Boston Dispensary gave him a large and varied amount of material for such work. He was always stressing the importance of recognizing the frequent occurrence of innocent and extragenital infections of syphilis,

and showed by example how kindly interest and sympathy for the patient would do much toward eliminating, later on, the need of official "follow-up" work.

Dr. Post was keenly interested in sick people. His fondness for children and his interest in congenital syphilis resulted in his studying syphilitic families at a time when many physicians were content with simply treating the individual patient. This was long before "social



ABNER POST, M.D.
1844-1934

service" and "follow-up" work had even been considered. Carefully recorded histories in a large group of families furnished the basis of a report on the effect of syphilis on pregnancy, which was published in 1914.[1]

Dr. Post was one of the earliest to use the roentgen ray in studying syphilis of the bones and joints, as well as one of the first to recognize the value of arsphenamine in the treatment of pregnant syphilitic

1. Post, A.: The Mortality of Hereditary Syphilis, Boston M. & S. J. **170:** 113, 1914.

women and their offspring. His interest in the treatment of symmetrical synovitis and interstitial keratitis contributed enormously to improving the health and conserving the eyesight of these unfortunate children. The results of some of this work are recorded in a paper published by the late Dr. George S. Derby in 1917,[2] showing conclusively, by visual tests, the benefits of treatment with arsphenamine.

In 1881, Dr. Post was appointed to the staff of the Children's Hospital, resigning in 1887. Later he was elected to the consulting staff.

He began teaching in the Medical School of Harvard University in 1882 and continued until his resignation as professor of syphilis in 1916, when he became professor emeritus. At the time of his death, he was the oldest member of the faculty.

In 1882, he was appointed surgeon to outpatients at the Boston City Hospital, and rose to the rank of senior visiting surgeon in 1897, resigning in 1906. As a surgeon, he was skilful, resourceful and conservative. The good of the patient was always his objective. He was especially proficient in genito-urinary surgery before the cystoscope or other modern aids were available. He was helpful to his colleagues and took especial interest in the training and welfare of his interns. He was at his best in teaching small groups.

In 1884, while a surgeon to outpatients at the Boston City Hospital, Dr. Post performed the first successful "bloodless operation" for congenital dislocation of the hip joint. The patient was a girl of 7 years. Recovery was complete, and the patient walked without a limp. It was nearly twenty years later that so much publicity was given the same procedure when performed in New York by Professor Lorenz of Vienna.

In 1894, Dr. Post originated and developed the Thursday evening clinical meetings which were held monthly for the staff and former interns. For a long time he presided with ease and dignity at these carefully arranged and well attended meetings.

Dr. Post was asked to fill the newly created position of curator of the Hospital Museum in 1907. He served in this capacity with devotion and credit for fifteen years. In 1907, he was made honorary consulting surgeon, a position which he held until his death.

Dr. Post was appointed to the consulting staff of the Massachusetts General Hospital in 1914, and for two years continued his teaching of Harvard medical students in the newly created department for the care of all forms of syphilis. In this clinic he did much work on interstitial keratitis and symmetrical synovitis, work to which allusion has already been made.

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2. Derby, G. S.: Interstitial Keratitis, Ophth. Rec. **26**:563, 1917.

He was an associate editor of the *Boston Medical and Surgical Journal* from 1881 to 1890, under the editor, the late Dr. George B. Shattuck, and he considered this association one of the pleasant experiences of his life.

His chief contributions to medical literature were in the fields of surgery and syphilology. His articles were carefully prepared, concisely written and carried conviction. He believed that syphilis, from a medical point of view, should be considered as a chronic contagious disease rather than as a social disease or sex problem, and should be treated like other contagious diseases. He recognized the value, as a public health measure, of locating, if possible, the source of infection and subsequent contacts. He was also an early advocate of a social service worker as a part of the clinical organization.

Dr. Post was a member of the St. Botolph Club, the Yale Club, the Harvard Club, the old University Club and a few small dining clubs. He held membership in the American Dermatological Association (of which he was at one time president), the American Medical Association, the American Urological Association, the Massachusetts Medical Society, the New England Dermatological Society and other local medical organizations.

He was a lover of Nature—of animals and flowers—and for many years spent long summers at his farm in Weston. He retired from practice in 1922 and removed to Cambridge. His wife, who was Laura Knight Stevens, died in 1927. He is survived by a daughter, Mrs. Stephen A. Breed; a granddaughter, Margaret Post Breed, and a stepson, former Adjt.-Gen. Jesse F. Stevens.

Abstracts from Current Literature

EDITED BY DR. HERBERT RATTNER

THE BLOOD CYTOLOGY IN UNTREATED AND TREATED SYPHILIS. P. D. ROSAHN and LOUISE PEARCE, Am. J. M. Sc. **187**:88 (Jan.) 1934.

One hundred and twenty-six treated and eighty-seven untreated patients were studied.

The lymphocytes and hemoglobin were increased by treatment, while the total white cell and platelet count, neutrophils and monocytes showed a decrease. Untreated patients with tertiary syphilis showed marked anemia, but anemia was absent in patients whose treatment had been begun in the primary, secondary or tertiary stage.

Untreated patients more often showed a monocyte-lymphocyte ratio above 0.55; persistently treated patients with repeatedly negative Wassermann reactions, a ratio of less than 0.45, and persistently treated patients with repeatedly positive reactions, a ratio over 4.45.

NEVUS FLAMMEUS NUCHAE: ITS OCCURRENCE AND ABNORMALITIES. E. F. CORSON, Am. J. M. Sc. **187**:121 (Jan.) 1934.

In his examination of 760 persons, 550 adults and 210 infants 1 day old, Corson found nevus flammeus nuchae in about 5 per cent; it occurred more frequently in the adults than in new-born infants.

While usually causing no subjective symptoms, in long-haired persons the condition appeared to serve as the starting point for dermatoses of various kinds, such as seborrheic or eczematoid dermatitis or eruptions simulating psoriasis.

JAMIESON, Detroit.

TREATMENT OF VARICOSE ULCERS. ADOLPH A. SCHMIER, Am. J. Surg. **23**:195 (Jan.) 1934.

The author has observed six cases in which ulceration followed the external application of magnesium sulphate solution for phlebitis. Evidently skin already undernourished cannot withstand the hygroscopic and irritant action of this drug. For infected painful ulcers excellent and prompt results were obtained with an ointment consisting of pulverized zinc oxide, a lithium compound and animal fats, the admixture being treated at close range with radiation from a quartz mercury vapor arc lamp. Pain is relieved almost immediately, and tissue granulation is hastened; the ointment does not cure the surrounding eczema. For permanent cure the mechanical factors must be eliminated by means of supportive bandages and obliteration of veins.

RATTNER, Chicago.

SARCOMATOID FIBROMA OF THE SKIN (PROGRESSIVE AND RECURRING DERMATOFIBROMA). PAUL E. MCMASTER, Ann. Surg. **99**:338 (Feb.) 1934.

This essay briefly reviews thirty-eight published cases of the condition first described by Darier as "progressive and recurring dermatofibroma" as to sex, age, duration, location, treatment and duration of cure when available. To this is added a clinical and microscopic description of another case studied by the author. The author objects to the term "fibroma" for this condition because of the lack of encapsulation, the tendency to invade the adipose tissue and the tendency to recurrence. Since the lesions also lack the characteristics of true sarcoma, he suggests the name "sarcomatoid fibroma of the skin." Treatment by wide surgical excision followed by roentgenotherapy is advised.

WIEDER, Milwaukee.

EXPERIMENTAL ASPECT OF FIXED ERUPTION DUE TO ALURATE. A COMPONENT OF ALLONAL. A. B. LOVEMAN, J. A. M. A. **102**:97 (Jan. 13) 1934.

A patient with a fixed eruption which was caused by the ingestion of allonal, a mixture of alurate (allylisopropyl barbituric acid) and amidopyrine, was found to be sensitive only to alurate. Patch, scratch and intradermal tests with allonal and alurate were positive in previously active areas but produced no reaction in normal skin. Attempts at passive transfer of the sensitivity were unsuccessful. In normal skin transplanted to previously active areas a reaction flared up following the repeated administration of the drug, while previously reacting skin transplanted to normal areas showed no reaction. These experiments suggest that the sensitivity was not epidermal but resided in a deeper nerve or blood vessel that supplied the area of affected skin.

CARO, Chicago.

THE TREATMENT OF SYCOSIS AND ALLIED FOLLICULAR INFECTIONS OF THE SKIN. J. AVIT-SCOTT, Brit. J. Dermat. **45**:190 (May) 1933.

Avit-Scott reports favorably on the use of a 75 per cent solution of sulphonated bitumen in water for the treatment of chronic blepharociliary furunculosis, intranasal sycosis and follicular infections of the bearded area. In sycosis of the bearded region the small pustular lesions are punctured with a needle, the area is washed with 10 per cent sulphonated bitumen soap, the soap is removed with water and the area is dried; it is then painted with the sulphonated bitumen solution every night and washed in the morning. If crops of boils develop in a case of sycosis they are given, in addition, a course of autohemotherapy, only 2 or 3 cc. of blood being applied just under the skin once a week.

WIEN, Chicago.

INFLUENCE OF PIGMENTATION DUE TO LIGHT TREATMENT ON THE ERUPTION OF MEASLES. ROBERT AITKEN, Brit. J. Phys. Med. **7**:241 (March) 1933.

Measles developed in a patient after four weeks of ultraviolet irradiation. The rash was much more intense in areas which had been exposed. Aitken believes that the localization was due to the pigmentation rather than to the light.

HARTMAN, Cleveland. [AM. J. DIS. CHILD.]

TREATMENT OF SCABIES. A. D. MATTHEWS, Brit. M. J. **1**:16 (Jan. 6) 1934.

A patient with scabies that had persisted for nine months despite treatment with sulphur was cured by dimethyl-diphenylene-disulphide, which was applied on three consecutive occasions.

RATTNER, Chicago.

HEMORRHAGIC AND ULCEROMEMBRANOUS CERVICOVAGINITIS WITH ACCOMPANYING STOMATITIS IN THE COURSE OF BISMUTH THERAPY. C. SIMON, J. BRALEZ, DUREL and PERETON, Ann. de dermat. et syph. **4**:193 (March) 1933.

A new complication of bismuth therapy is reported, consisting of an analogous inflammatory condition in the vagina and in the mouth. A woman of 32 years presented condylomas and mucous patches of the vulva and perianal region, but examination with the speculum revealed neither vaginitis nor cervicitis. Blood tests were strongly positive for syphilis. Antisyphilitic treatment with bismuth was begun. Nineteen injections of a bismuth compound were given over a period of nine weeks without incident, and the lesions were rapidly disappearing. Suddenly stomatitis and a bismuth line developed, followed by the appearance of hemorrhagic and ulceromembranous lesions of the cervix and the vagina, plus small bluish points on the vaginal wall similar to those forming the bismuth line on the gums and undoubtedly representing depots of the metal. (The accompanying cut, in color, is striking.) By painstaking investigation other diseases were ruled out, and the condition finally cleared up under local treatment.

GANDY, Houston, Texas.

POLYMORPHOUS HEREDITARY SYPHILITIC LESIONS OF THE EYE OBSERVED IN THREE BROTHERS. J. ROLLET, Ann. d'ocul. **170**:542 (June) 1933.

Hereditary syphilitic lesions of the eye were noted in three brothers; the two older ones had interstitial keratitis; the second child had also unusual peripapillary lesions, which were observed likewise in the third. In addition, the third brother had Argyll Robertson pupils.

BERENS, New York. [ARCH. NEUROL. & PSYCHIAT.]

AN EARLY SIGN OF INFECTION WITH CHICKENPOX. O. LADE, München. med. Wchnschr. **80**:1215 (Aug. 4) 1933.

Lade has observed that many children have a diarrheal or very soft stool two weeks before the exanthem of chickenpox appears. In a ward in which the patients have been exposed to chickenpox each child who has a loose stool for no evident reason should be isolated. This observation also has a certain significance for the question of the portal of entry of the chickenpox virus. The author thinks that it indicates that infection occurs by the intestinal route.

BRAHDY, Mount Vernon, N. Y. [AM. J. DIS. CHILD.]

HISTOLOGIC CHANGES IN THE CLINICALLY UNALTERED SKIN IN SYPHILIS. HELENE HERZENBERG, E. BANJAMOWITSCH and A. LEWIN, Virchows Arch. f. path. Anat. **289**:688, 1933.

Other observers have noted cellular proliferative reactions about the small blood vessels of the apparently normal skin of persons with syphilis. Although most of these observers considered the reaction nonspecific, Lukomski, in 1929, held it to be inflammatory and specific. Stadler accepted this view and attached great etiologic importance to the reaction in cardiovascular syphilis. Herzenberg, Banjamowitsch and Lewin examined histologically the macroscopically unaltered skin of thirty-four patients with syphilis in various stages. They observed a histiocytic proliferative reaction about the small vessels. But they also observed an identical reaction in the skin of a group of patients with diseases of the genitourinary tract and of patients who had undergone operations and in the skin removed at necropsy from thirty subjects without syphilis. They interpret the reaction as hyperplasia of the perivascular connective tissue brought about by metabolic changes in the skin. It is not inflammatory in origin and has nothing to do with syphilis.

SCHULTZ, Evanston, Ill. [ARCH. PATH.]

HISTOPATHOLOGIC CHANGES IN THE NERVOUS SYSTEM IN THALLIUM POISONING. E. SCHARRER, Ztschr. f. d. ges. Neurol. u. Psychiat. **145**:454 (April) 1933.

Thallium, which has been used recently as a depilatory, may cause changes in the nervous system. Scharrer reports a case of thallium poisoning, as well as experiments carried out on monkeys. The case was that of a man, aged 41, who had taken rat poison. In the course of from five to eight days, his hair fell out; later he had pains, paresthesias and feelings of coldness. Examination revealed polyneuritis. Later, there developed disturbances of speech and gait, and the patient died. Necropsy revealed degenerative changes in the spinal cord, characterized by loss of myelin sheaths and fatty degeneration. This was most marked in the cervical, thoracic and lumbar regions and least in the sacral. The degeneration of the posterior columns was most marked in the thoracic region. The cells of the dorsal vagus and vestibular nuclei showed axonal degeneration. The inferior olivary bodies showed a loss of cells, the remaining cells presenting a change similar to that of retrograde degeneration. Most of the cells of the median accessory olivary body were in this state. The dentate nucleus showed changes. In some parts fatty degeneration of the cells was marked; in other parts it was less

pronounced. Glial hyperplasia was present. There was no evidence of a pathologic process in the cortex or white matter of the cerebrum, in the basal ganglia or in the cornu ammonis. ALPERS, Philadelphia. [ARCH. NEUROL. & PSYCHIAT.]

IMMUNITY IN SYPHILIS OF RABBITS. H. GROSSMANN, Ztschr. f. Immunitätsforsch. u. exper. Therap. **79**:495, 1933.

Twenty-seven rabbits with late syphilis received a course of three injections of neoarsphenamine (0.15 Gm. per kilogram of body weight) and were reinfected after twenty-nine days. Only one animal responded with a local reaction; in the others the infection was asymptomatic. The majority of the animals with asymptomatic infection (eighteen of twenty-three) were free from spirochetes, as shown by transplantation of their organs into healthy rabbits. From the result Grossmann concluded an immunity existed in late syphilis of rabbits following the treatment with neoarsphenamine. The immunity was of short duration (less than five and one-half months). During the period of absolute immunity the skin of the rabbits was refractory to reinfection with Spirochaeta pallida. That observation invalidates, according to Grossmann, the prevalent opinion that cutaneous resistance (anergy) indicates the presence of spirochetes in such rabbits or, in other words, the incurability of late syphilis in these animals.

DAVIDSOHN, New York. [ARCH. PATH.]

THERAPY OF PEMPHIGUS CHRONICUS ET VEGETANS BY BAYER 205. ANTON FABIAN, Česká dermat. **14**:137, 1933.

The author adds two cases to the twenty-two previously reported in which the patients were treated by Bayer 205. However, he does not draw any conclusions from the results obtained. The first patient, a boy aged 4 years, showed a clinical cure after four injections of Bayer 205, although he had had little relief from other therapeutic measures. The second patient, an elderly diabetic woman with hemorrhagic bullae, at first showed marked improvement, but after the third injection a high temperature developed and she died.

DERMATOFIBROMATOSIS. O. J. POLLAK, Česká dermat. **14**:157, 1933.

A woman, aged 37, had a hard, freely movable tumor the size of a hazelnut removed from the left shoulder in 1924. The histologic picture was that of a fibroma. In 1926, the tumor recurred, reaching the size of a walnut; it was again excised, and the area was twice irradiated with x-rays. In 1931, the tumor again recurred and reached the size of a goose egg within three months. It was removed by electrolysis at the time of a hysterectomy for subserous fibroma. Within five months, the growth had to be removed again, together with a portion of the deltoid muscle which it had invaded. Microscopic examination was made after each removal and showed a changing pathologic picture: The number of cells gradually increased out of all proportion to the number of fibers, the cells became more polymorphous, the nuclei increased, the number of giant cells became larger and there were numerous mitoses. There was edema at first, which gave place to hyaline and myxomatous degeneration. The author believes that the name "dermatofibromatosis sarcomatodes protuberans" best describes such recurrent, nonmetastasizing tumors. Fifty-five cases previously reported are tabulated.

EPIDERMOPHYTON LANOROSEUM. JAN OBRTEL, Česká dermat. **14**:171, 1933.

A man, aged 27, contracted a dermatosis resembling eczema marginatum while in a watering place with an international clientele. The fungus recovered from the lesions was considered to be Epidermophyton lanoroseum, and the identification was confirmed by Alexander and Keller, who first described this species. The author raises the question whether E. lanoroseum is an independent entity or merely a cultural variation of Epidermophyton rubrum imported to Europe.

BOWEN'S DISEASE. R. SCHWANK and J. STOLZ, Česká dermat. **14**:219, 1933.

The authors report the first case of Bowen's disease in the Czechic literature. A detailed clinical and histopathologic study leads them to join the ranks of those who do not consider Bowen's disease as a precancerous dermatosis. They believe that the pathologic changes have all the earmarks of malignancy from the onset. However, the changes develop and progress rather slowly, remain confined mostly to the intra-epidermal location and show only a slight tendency to metastasis in late stages. The reported case showed a local recurrence a year and a half after thorough electrocoagulation. Such a name as "epithelioma intra-epidermicum, typus Bowen" or "epithelioma dyskeratoticum Bowen" would be more descriptive of this condition.

SPINKA, Texarkana, Texas.

AN APPARATUS FOR TREATING FRECKLES (EPHELIDES). T. KAGAWA, Jap. J. Dermat. & Urol. **34**:451 (Oct.) 1933.

At the one hundred and sixty-seventh regular session of the Dermato-Urologic Section of the Japanese Medical Society (Dec. 13, 1932), Kagawa demonstrated an apparatus on the order of the Kromayer raspatory device. It consists of a dental carbarundum point which is attached removably to an electric motor by means of a flexible cable. The tiny excoriating point, while rotating at a speed of from 1,500 to 2,000 revolutions per minute, is applied with just the proper pressure to the pigmented spot, removing only the top horny layer. A superficial scab develops over this area and remains for a few days. The proper pressure to apply to the instrument must be practiced. When the operation is correctly done, no scarring is left, and the cosmetic results are excellent.

SO-CALLED KERATODERMIA TYLODES PALMARIS PROGRESSIVUM. MASAKAZU KAWABE, Jap. J. Dermat. & Urol. **34**:576 (Dec.) 1933.

The author reports fifty cases of keratodermia all occurring in young women, most of them after the onset of menstruation, characterized by hardening and drying of the skin of the hands, progressing to atrophy of the epithelial layers (loss of finger-print), formation of rhagades, thickening of the nails and transverse ridging, and finally a clawlike, flexed fixation of the fingers (ameliorated by soaking the hands in water). The process usually began on the volar surface of the terminal phalanges (particularly of the right hand) and spread to the palm, sometimes as far as the wrist. The author thinks that a thyroid disturbance is the cause of the condition, as evidenced by marked palpability of the gland, by the encouraging results of treatment with small doses of potassium iodide and direct irradiation of the gland with radium, by the results of the basal metabolism test, which showed a rate above —15 per cent in every case and by an increase in the "voluntary apnea quotient," or the vital capacity of the patient in cubic centimeters divided by the period of voluntary apnea in seconds (in a normal person this quotient is never more than 80, but in this series it was always increased, frequently being above 100).

Histologic examination in fourteen cases revealed: nucleated cells in the stratum corneum (parakeratosis); thickening of the rete (akantosis) and lengthening of the papillae; round and connective tissue cell infiltration of the papillary layer of the cutis, and capillary dilatation. The stratum lucidum was not demonstrable. The sweat glands and their excretory ducts were usually normal, but the investing capillary network was dilated. In the stratum reticulare the small vessels frequently evidenced thickening.

TRANSFER OF THE ACTIVITY OF HYDROGEN IONS OF HUMAN URINE CAUSED BY MIXING OF SOME PATHOGENIC ORGANISMS WITH IT. I. NAKASHIMA, Jap. J. Dermat. & Urol. **34**:639 (Dec.) 1933.

To 10 cc. of urine from each of ten healthy persons which had been run through the bacterial filter of Chamberland was added a platinum loop of a pure

culture of each of the following organisms: Gonococcus, Bacillus tuberculosis, Bacillus coli and Staphylococcus aureus. The specimens thus treated were incubated for ten days. The hydrogen ion concentration was determined after one, three, five, seven and ten days, and the results were compared with the initial concentration. Parallel observations were made with dead organisms of each kind.

With B. tuberculosis and Staph. aureus the hydrogen ion concentration increased with time, the urine becoming strongly alkaline by the end of the ten days. With the corresponding dead organisms, the urine also became progressively alkaline but not to the same extent. With Gonococcus the hydrogen ion values dropped rapidly at first and then more gradually; there was also a drop with the dead organisms but not to the same extent. With B. coli there was a slow drop with a slight terminal increase; with the dead organisms the decrease was little different from that occurring in the urine without the addition of bacteria. A check-up by culture showed that Staph. aureus and B. coli retain their vitality throughout a ten day period while Gonococcus and B. tuberculosis tend to die rapidly.

SOLITARY DERMATOLEIOMYOMA. S. HAGIWARA and K. SIGUZAKI, Jap. J. Dermat. & Urol. **34**:645 (Dec.) 1933.

A firm tumor about the size of a navy bean was located on the medial aspect of the left leg below the knee. Paroxysms of pain lasting as long as thirty minutes could be elicited by pressure or rubbing over the tumor and by the injection of epinephrine. During these paroxysms the tumor became harder and more prominent. On the injection of procaine hydrochloride, preparatory to removal, the paroxysms could no longer be elicited.

Histologic examination disclosed a sharply delimited tumor made up of bundles of interlacing muscle fibers, numerous connective tissue fibers and a few blood vessels. There were no elastic fibers and no evidence of the skin appendages (hair follicles, sebaceous cells, hairs).

ON THE BITE CAUSED BY A "HOUSE-TICK." Y. KOBAYASHI, Jap. J. Dermat. Urol. **35**:71 (Jan.) 1934.

In two cases the eruption caused by the bite of a "tick" was examined. This mite belongs to the phylum Arthropoda, class Arachnida (the spiders), order Acarina and family Dermanyssus. The insects involved in these two cases were on the whole somewhat dissimilar but both resembled most closely Liponyssus nagayoi. The first case was that of a girl of 3 years with an itching, papular eruption of the neck, breast, abdomen, buttocks and thighs. There was an identical eruption on the breast, abdomen and buttocks of the mother. The second case was that of a policeman, 52 years of age. The eruption was of much the same character and distribution as that in the case first described. In this instance also the other members of the household (the daughter and granddaughter of the patient) were analogously affected. In each of these two cases the guilty mite was sought, and specimens of it were secured.

GENERALIZED POSTERYTHRODERMIC LEUKOMELANODERMIA FOLLOWING TREATMENT WITH ACRIFLAVINE HYDROCHLORIDE. M. ITŌ and R. MIKI, Jap. J. Dermat. & Urol. **35**:38 (Jan.) 1934.

A young agricultural engineer received about twenty-five injections (one every other day) of acriflavine hydrochloride, the last few injections being accompanied by chills. One month later there appeared a typical generalized, erythrodermic, exfoliative eruption, accompanied by fever and general malaise. This eruption disappeared in a few weeks, but in the meantime the patient had lost most of his hair and nails, and the skin was completely depigmented. Three months after

the appearance of the eruption, new pigment began to reappear, though irregularly, being especially pronounced about the hair follicles. Tests of the vegetative nervous system at this time indicated vagotonia. Later a test injection of 10 cc. of a 5 per cent solution of acriflavine hydrochloride resulted in the immediate appearance of chills, headache and a sensation of burning in the face, followed the next day by general myalgic pains and three days later by a pruriginous eruption of the body and extremities. The eruption consisted of small erythematous blotches the size of a pinhead, some macular, others papular and some tending to become follicular. There were mild albuminuria, leukopenia and a low blood pressure.

Histologic examination of a biopsy specimen including one of the eruptive lesions disclosed a hair follicle infiltrated by lymphocytes and polymorphonuclears and a marked degenerative condition of the stratum mucosum. The remaining strata were practically normal except for a mild infiltration of lymphocytes, mast cells and fibrocytes about the blood vessels. Melanin was present in considerable amounts except in the region of the degenerative hair follicles.

The authors consider that the condition was due to a disturbance of the vegetative nervous system.

THE ALKALI RESERVE IN SOME CASES OF DERMATOSIS, WITH SPECIAL REGARD TO SEASONAL VARIATIONS. EIJI KOBAYASHI, Jap. J. Dermat. & Urol. **35**:47 (Jan.) 1934.

In 108 cases of eczema and smaller numbers of cases of various other skin disorders, the alkali reserve was determined by the method of Van Slyke. No other characteristic variations were noted than the seasonal; the values tended to be lower in the warm and higher in the colder seasons.

A CASE OF PEMPHIGUS VEGETANS. S. YAMAMOTO, Jap. J. Dermat. & Urol. **35**:57 (Jan.) 1934.

A woman of 28 years about a month after a normal parturition noted blisters along the borders of the tongue. These broke down, leaving tender excoriations, and the process later spread to the mucosa of the cheek and palate and finally over the body. Without preliminary symptoms a crop of blisters would appear, would spread by peripheral extension, in places forming large patches, and would then break down, leaving crusts or excoriations from which there was a copious discharge. The raw areas of the skin and the mucosa of the external genitalia later presented vegetating masses. In some regions the lesions showed no tendency to heal, and where they did, they left brownish pigmented areas. The patient entered the hospital about seven months after the appearance of the first crop of blisters. She was not materially benefited by treatment, lost steadily in weight and strength and died four months later of general exhaustion.

Autopsy disclosed a moderate degree of fatty degeneration of the liver and atrophy of the splenic follicles. Histologically there were loosening and exfoliation of the epidermis in the affected areas, with edema of the deeper layers of the skin. The number of eosinophils in the blood was not pronounced (9 per cent).

BRENNAN, Chicago.

ETIOLOGY OF PITYRIASIS DEVERGIE-BESNIER. C. RYLL-NARDZEWSKI, Acta dermat.-venereol. **14**:207 (Oct.) 1933.

The author discusses the possible etiologic factors of pityriasis rubra pilaris: tuberculosis, heredity, disturbances of the nervous system and finally endocrine disturbances. He believes that dysfunction of the endocrine system plays a prominent rôle in the etiology of pityriasis rubra pilaris. A patient presenting the typical symptoms of this disease was under observation for four months, and his condition improved spontaneously.

An interferometric test and Abderhalden's test were made four times on the following five glands: the hypophysis, the thyroid, the thymus, the testicles and the suprarenals. The first investigation showed a considerable disturbance of the endocrine glands. However, the deviations from the normal values disappeared as the symptoms of pityriasis rubra pilaris gradually improved.

ACUTE AND CHRONIC LICHENOID PITYRIASIS. L. S. SIROTA, Acta dermat.-venereol. **14**:218 (Oct.) 1933.

Sirota cites two cases of pityriasis lichenoides et varioliformis in which a cure was obtained by a specific vaccine made from the scales of the eruption. He is of the opinion that this disease is accompanied often by fever, general malaise and swelling of the lymph glands; it occurs mostly during the fall and winter months, more often attacks young people and is observed in males oftener than in females. That the disease may be caused by some kind of infection is confirmed by the results of experiments both on human beings and on animals. Sirota maintains that in patients treated with the specific vaccine there is apparently no tendency to recurrence.

PITYRIASIS LICHENOIDES ET VARIOLIFORMIS ACUTA (HABERMANN). FRED WISE and D. L. SATENSTEIN, Acta dermat.-venereol. **14**:245 (Oct.) 1933.

Two cases of pityriasis lichenoides et varioliformis are described. In the first one vesicular hemorrhagic and necrotic lesions on the palms and soles were a striking feature. Vesicular lesions were found also on the hard palate. The greater proportion of the eruption possessed the features common to pityriasis lichenoides chronica of Juliusberg. In the second case there was a preponderance of varicelliform and varioliform elements intermingled with the ordinary efflorescences common to Juliusberg's disease.

Histologically both cases presented an exudative inflammatory process in which edema and infiltration with cellular elements predominated. In the first case there were also fragmentation of the elastic tissue and signs of necrosis. The authors emphasize the debatable relationship of pityriasis lichenoides et varioliformis to Juliusberg's disease, the variations in the histopathologic features of the former, the fact that many patients suffering from this disease are hypersensitive to tuberculin and finally the fact that the eruption may be acute, subacute or chronic.

SUTTON'S DISEASE AND VITILIGO. S. T. PAWLOW, Acta dermat-venereol. **14**:255 (Oct.) 1933.

According to the author the most important characteristics of leukoderma acquisitum centrifugum in comparison with vitiligo are (1) the appearance of a white area around a pigmented nevus and (2) the absence of the hyperpigmented zone. The author believes that Sutton's disease is not a separate entity but a form of vitiligo. He cites published cases in which the most important points of differentiation between these two diseases were missing or appeared later. In order to prove the close relationship between the two, he describes a case in which Sutton's disease with all its characteristics was accompanied by the most typical vitiligo. He further discusses the different theories of the etiology of vitiligo: the neurotrophic, the now popular neuro-endocrine and the syphilitic theory. In conclusion, he describes a case of Sutton's disease which developed as a result of an injury of a peripheral nerve.

FLUCTUATION OF THE SUGAR CONTENT IN THE SERUM OF SYPHILITIC PATIENTS. D. L. POSTOWSKY, Acta dermat.-venereol. **14**:262 (Oct.) 1933.

The author discusses the relationship between diabetes and syphilis. He cites opinions of many investigators concerning syphilitic changes in the nervous system and in the organs of internal secretion, especially the pancreas and liver,

which may influence the carbohydrate metabolism and indirectly cause diabetes. The disturbance of carbohydrate metabolism was shown particularly by the presence of dextrose in the urine of syphilitic patients while the dextrose content of their blood remained normal.

Antisyphilitic treatment given to syphilitic patients suffering from hyperglycemia or hypoglycemia had such an effect on the regulating organs that the blood sugar content became more or less normal.

ETIOLOGY OF BOECK'S SARCOID. A. KISSMEYER and JENS NIELSEN, Acta dermat.-venereol. **14**:283 (Oct.) 1933.

According to the latest investigations the osseous changes in lepra are similar to those of sarcoid and different from those of tuberculosis. The authors maintain that Boeck's sarcoid is a chronic infectious granuloma caused by a hitherto unknown virus and is a separate pathologic entity. They also believe that in general there are more points of similarity between sarcoid and lepra than between sarcoid and tuberculosis.

ASTRACHAN, New York.

Society Transactions

MINNESOTA DERMATOLOGICAL SOCIETY

L. H. WINER, M.D., *Secretary*

Dec. 6, 1933

D. D. TURNACLIFF, M.D., *President, Presiding*

XANTHELASMATOSIS. Presented by DR. H. E. MICHELSON, Minneapolis.

This white woman, aged 49, complains of hoarseness of two or three years' duration and of cutaneous lesions which appeared in May, 1933.

There are numerous soft yellow papules from 1 to 3 mm. in diameter about the mouth and on the sides of the neck. There is also a large triangular lesion, measuring 5 cm. at the base, on the right shoulder. This lesion is orange-yellow and of the consistency of chamois; it is surrounded by a lilac zone and is traversed by telangiectatic vessels at the periphery. Laryngoscopic examination showed involvement of the larynx, and similar changes in the eyegrounds were found on ophthalmoscopic examination.

The blood sugar (fasting) was 112 mg. per hundred cubic centimeters; the cholesterol, from 90 to 120 mg. On routine examination the blood and urine were normal. Biopsy showed a xanthelasmatous formation with intracellular lipoid deposits and numerous giant cells of the Touton type. Material is now being studied by means of various differential stains for fat.

DISCUSSION

DR. C. W. LAYMON, Minneapolis (by invitation): I recently read several of Urbach's contributions on the subject of cutaneous lipoidosis. He classifies this group according to the type of lipoid, its relation to the cell (that is, intracellular or extracellular) and whether the disease is localized or generalized. Histochemical studies by means of differential stains for fat aid in the determination of the type of lipoid. Solubility studies are also used. This patient has generalized essential xanthelasmatosis in which the lipoid is cholesterol deposited intracellularly.

DR. H. E. MICHELSON, Minneapolis: In analyzing a case of xanthelasmatosis one must take into consideration all of the factors. Determination of the chemical properties by staining of the sections is very difficult, and there are very few institutions equipped to make accurate fat analyses on excised tissues. Dr. Laymon has been working on this case.

DR. HAMILTON MONTGOMERY, Rochester: Dr. Finney, Dr. New and I recently reported two cases of xanthoma multiplex involving the larynx and trachea and associated with diabetes insipidus (*J. A. M. A.* **99**:1071 [Sept. 24] 1932). The first patient died about six months ago, and postmortem examination done at his home revealed lesions of xanthoma in the pituitary gland and the tuber cinereum. The second patient, who had been under our observation since June, 1927, was last seen in January, 1923, at which time he showed symptoms of myocardial degeneration with cardiac decompensation and evidence of some damage to the liver. Clinically, both patients presented what used to be called xanthoma tuberosum multiplex. These two cases, however, and the case pre-

sented by Dr. Michelson tonight illustrate that the condition is frequently generalized xanthoma in which the skin changes are only a part of the picture. In each case of xanthoma complete studies of the blood chemistry should be made, and material for biopsy should be taken from one or more nodules, care being exerted to select fully developed, but not involuting lesions. My associates and I use one half of the specimen for direct chemical studies of the various lipoids it contains, which also acts as a control for the study of sections from the other half by differential stains for fat. In our experience direct chemical analysis is much more reliable than the use of the differential fat stains.

I wish also to call attention to a patient with multiple cutaneous xanthoma whom Dr. O'Leary, Dr. Brunsting and I recently saw, who showed a marked increase in the blood lipoids, the figures being as follows:

Lipoid	Mg. Per 100 Cc. of Plasma
Total fatty acids	1,825
Cholesterol	672
Total lipoids	2,497
Lecithin	492

The patient was put in the hospital on a rigid reduction diet low in fat and calories. Eighteen days later the blood lipoids approximated normal, the findings being as follows:

Lipoid	Mg. Per 100 Cc. of Plasma
Total fatty acids	506
Cholesterol	206
Total lipoids	712
Lecithin	286

When it was necessary to increase the amount of food to prevent too much loss of weight, there was a gradual slight increase in the blood lipoids. While the patient was losing weight there were a definite softening and decrease in the size of the xanthomatous tumors on the skin.

This patient is still under observation. The case will be reported later in detail, together with chemical studies of biopsy material from a series of cases.

PYODERMIA STAPHYLOGENES SUDIPORA. Presented by DR. H. E. MICHELSON, Minneapolis.

The mother of this infant states that he was entirely well until five weeks ago. At that time an eruption appeared on the abdomen and in the diaper region, consisting of vesicles which seemed to become infected soon after their appearance. The eruption gradually extended until the face, scalp, extremities and trunk were involved.

There is now an eruption involving the forehead, scalp, upper parts of the extremities, abdomen, back and right palm and sole. The trunk is the area of greatest involvement, and there are very few lesions on the right palm and sole. The left palm and sole are free. The lesions are shiny, waxy papules and vesicles, with a few crusted pustules; they vary in diameter from 1 to 2 mm. No lesions can be observed on the mucosae. The biopsy material is shown.

DISCUSSION

DR. S. E. SWEITZER, Minneapolis: The baby presents an unusual eruption. I have never seen anything like it. From the history I imagine that it was formerly more acute than at the present time, probably rather like miliaria, the lesions now flattening out and appearing umbilicated.

DR. MICHELSON, Minneapolis: Such eruptions have been discussed under various titles, but they are essentially a purulent infection of the sweat glands. This patient has shown improvement under treatment with an antiseptic lotion.

PITYRIASIS LICHENOIDES ACUTA ET VARIOLIFORMIS. Presented by DR. H. E. MICHELSON, Minneapolis.

This man, aged 29, a farm-hand, states that three weeks ago he injured his hand and shortly after the injury a rash appeared which covered the sides of the abdomen and chest; many of the first papules have disappeared, but others of the same character have taken their places. At the present time there is a profuse eruption arranged in somewhat concentric circles with the center in the axillae, leaving a triangular area on the front of the chest which is entirely free. The eruption consists of scaling macules, hard papules and a few crusted ulcerating lesions, some of which are lozenge-shaped and a good deal larger than the other lesions. There are no subjective symptoms. The mucous membranes are free, and there is no leukoderma. Some of the necrotic areas have healed, leaving faint scars.

DISCUSSION

DR. C. D. FREEMAN, St. Paul: This is a very interesting case. Clinically there are many lesions simulating pityriasis lichenoides chronica or parapsoriasis guttata and some lesions which are not ordinarily seen. The consensus seems to be that histologically there is also a marked resemblance to pityriasis lichenoides chronica.

The discussion will probably, like most arguments, end in no one's changing his original opinion. I like the name Dr. Wise has given the condition—parapsoriasis varioliformis. There is no reason why a cutaneous disease should not present different cutaneous manifestations, as do other conditions.

It is rather interesting, in consideration of the great number of cases of pityriasis lichenoides chronica that have been presented before this society, that the first two cases of pityriasis lichenoides acuta have been presented in the last few weeks, and I do not believe that such cases have been overlooked, because they are rather striking.

There seems to be a difference of opinion about classifying this disease, but until some one can "knock down" all the arguments against placing it in the category of pityriasis lichenoides chronica the members will have to proceed to "fight it out" as they have done in so many other instances.

DR. MICHELSON, Minneapolis: I have seen a number of cases of acute pityriasis lichenoides. I think that the present example is classic and has all of the characteristics which have been discussed.

DR. S. E. SWEITZER, Minneapolis: My associates and I had a patient with this condition, whom Dr. Shapiro referred. The man would have acute symptoms or flare-ups, which would quiet down and then he would have another exacerbation. In the intervals between the attacks the eruption looked like ordinary pityriasis lichenoides chronica.

ACHROMIA PARASITARIA. Presented by DR. S. E. SWEITZER, Minneapolis.

This white man, aged 20, first observed the absence of pigment ten months ago. There are approximately twenty oval patches of depigmentation on the back of the trunk, the long axis of the lesions following the lines of cleavage of the body. The surface of the lesions shows mildly desquamating macules. Fungi were found in biopsy tissue treated with Gram's stain. The biopsy material is shown.

MULTIPLE BENIGN CYSTIC EPITHELIOMA. Presented by DR. H. E. MICHELSON, Minneapolis.

This woman, aged 28, single, has numerous small, hard, translucent nodules about the nose and on the forehead. They have been present since childhood. The microscopic picture is that of multiple benign cystic epithelioma.

DISCUSSION

DR. HAMILTON MONTGOMERY, Rochester: The condition is typical epithelioma adenoides cysticum (tricho-epithelioma). Histologically, it is basal cell epithelioma

in which the basal cells are highly differentiated. It is essentially benign. The origin of the basal cells from dermal appendages, including hair follicles, is readily seen. General pathologists have confused such benign basal cells growths with ordinary rodent ulcer (*Basal-Lenkrebs*). Epithelioma adenoides cysticum is closely related to syringoma and to adenoma sebaceum of Pringle, the latter not to be confused with nevus sebaceus or senile sebaceous adenoma. One of the fellows at the Mayo Clinic, Dr. Ingels, recently presented a thesis on a case which showed features of all three conditions both clinically and histologically. It is my belief that all three are essentially benign tumors of epithelial nevus origin, using this term as the Germans do. The three conditions should be distinguished, but one sees cases in which they merge with each other.

SENSITIZATION DERMATITIS ON THE LEGS DUE TO A PLASTER-OF-PARIS CAST. Presented by DR. S. E. SWEITZER, Minneapolis.

This man, aged 65, a laborer, was admitted to the Minneapolis General Hospital on Oct. 22, 1933, with acute dermatitis covering the entire right leg and the calf of the left leg. The eruption began after partial removal of a plaster-of-paris cast from the right leg on September 1. In a short time there appeared an eroded area at the cut end of the cast and later erythema, vesicles and induration. The eruption extended rapidly until it involved the entire right leg, and later an eruption appeared on the left calf. Patch tests with component parts of the cast were negative.

ECZEMA DUE TO FOOD. Presented by DR. S. E. SWEITZER, Minneapolis.

This man, aged 65, was admitted to the Minneapolis General Hospital on March 7, 1933, with a history of a recurring generalized pruritic eruption present intermittently for several years. On admission there was a weeping, erythematous, papulovesicular eruption with scales and crusts and excoriating points and lines, involving the entire body but more marked on the left leg. There was no history of sensitivity to food or to a contact reagin. Treatment consisted of elimination of foods and symptomatic local treatment, following which the eruption involuted. Cutaneous food tests in this case were about 50 per cent accurate.

MYCOTIC DERMATITIS OF THE HANDS AND FEET, WITH A CONTACT DERMATITIS DUE TO SULPHUR. Presented by DR. S. E. SWEITZER, Minneapolis.

This man, aged 40, was admitted to the Minneapolis General Hospital on Sept. 30, 1933, with a generalized eruption, more marked on the hands, feet, back, scalp and chest. The eruption on the feet and hands consisted of grouped vesicles exhibiting central healing and peripheral spread. The eruption on the body had the appearance of a seborrheic dermatitis. A short time previous to admittance to the hospital the patient was treated for scabies, and following this the eruption (except for that on the hands and feet) appeared. While the patient was in the hospital, a weak salicylic sulphur ointment (salicylic acid, 1 Gm., sulphur, 2 Gm., and petrolatum, 60 Gm.) was applied to the scalp and neck. This resulted in immediate exacerbation of the dermatitis. Cutaneous tests with trichophytin and oidiomycin were negative. Patch tests with quarter-strength salicylic sulphur ointment (salicylic acid, 1 Gm., sulphur, 2 Gm., and petrolatum, 120 Gm.) produced a positive reaction in twenty-four hours. The components of this ointment gave negative results. Local treatment consisted of the application of mildly astringent antipruritic lotions and ointments.

DISCUSSION OF THE THREE FOREGOING CASES

DR. E. M. RUSTEN, Minneapolis: The first case is an instance of contact dermatitis in which the patch test was of no value because the reagin reached the skin through a traumatized area at the site of the cast. All medication except packs wet with physiologic solution of sodium chloride caused an exacerbation of the eruption.

In the second case, the sensitization eczema responded to dietary elimination and has nearly disappeared. Tests with glycerinated extracts were 50 per cent accurate. Powdered protein extract appears to contain a primary irritant. The glycerinated extracts are more accurate and may be applied with less difficulty. Extracting solutions generally contain sodium chloride, sodium bicarbonate and phenol.

The eruption in the third case can be termed mycotic dermatitis of the feet with a secondary contact dermatitis due to sulphur. There is a definite history of a severe dermatitis in childhood following the application of an ointment containing sulphur. A patch test with quarter-strength salsulphur produced within twenty-four hours a positive reaction which had all the characteristics of the eruption present on the back, scalp and neck. Intradermal tests with trichophytin were negative.

DR. L. A. BRUNSTING, Rochester: During the past few years there has been an added interest in the classification of the various types of eczema. It is frequently difficult to decide whether a case is purely a contact dermatitis or truly allergic, of the so-called atopic type. Sometimes the two forms are combined. In atopic eczema there are often many factors at work besides a specific sensitivity. A careful investigation of the history as to past recurrences is essential in order to bring out the factors which may be common to the attacks. Not infrequently the patient will be able to offer valuable clues, and the laboratory reports may be of help. However, one may have to depend on the procedure of trial and error in order to determine the influence of particular irritants. One of the reasons for the disregard of cutaneous sensitization tests by the dermatologist is that the laboratory procedures have been carried out in a routine fashion by persons who have had no clinical contact with the patient and the reports have been accepted without correlation to the case concerned. In a case of contact dermatitis, the patch test finds its particular application. There may be a positive reaction to more than one substance, and in that event it is difficult to decide which is responsible for the dermatitis. As a general rule, persons who are sensitive to plant oils are not affected by chemicals, and vice versa. My associates and I have recently observed a fairly large series of cases of recurring summer dermatitis due to weeds of the ragweed family, in some of which we have attempted desensitization by intramuscular injections of oil. However, sufficient time has not elapsed since the treatment for proper evaluation of its benefits.

DR. S. E. SWEITZER, Minneapolis: I felt that these cases were of sufficient interest to be presented for the reason that at one time all the eruptions looked practically alike. In one case a contact dermatitis was caused by a cast on a broken leg. The second case is one of sensitization to food. The third case is one of sensitization to sulphur. The patient came to the hospital with ringworm on the feet and hands, a generalized dermatitis and seborrhea on the scalp. When an ointment containing sulphur was applied the eruption became worse. On the application of lead oleate it improved. The lesions on the feet were treated as ringworm; packs of potassium permanganate and various other remedies were tried, and eventually the eruption cleared up. Clinically, the eruptions in these cases looked alike, but the causative agents were different.

DR. H. E. MICHELSON, Minneapolis: It is pleasant to have Dr. Rusten at the meeting and to observe how the study of allergy should be carried out by one qualified. It is distinctly a specialty within a specialty and can be carried out only by one who is qualified to interpret the results obtained with a particular technic. To make patch tests or scratch tests in a haphazard manner is a great injustice to the patient, for his entire régime of life may be changed by a false interpretation.

DR. L. H. WINER, Minneapolis: The man with the lesions on the legs on one of his visits to the hospital presented an eruption resembling generalized psoriasis, and a biopsy specimen was taken from one of the lesions. The condition proved to be psoriasis, and he was given the Mayo treatment for psoriasis. The condition cleared up in three or four days except on the legs, which the patient kept scratching and irritating.

DR. HAMILTON MONTGOMERY, Rochester: The histologic differentiation of eczema, including that due to sensitization, psoriasis and seborrheic dermatitis may be difficult, especially in cases which clinically are of a borderline type. A diagnosis should be made only after weighing both the clinical and the histologic evidence, and if there is disagreement more than one biopsy may be necessary.

DR. S. E. SWEITZER, Minneapolis: My associates and I have treated a number of patients with pyrethrum and have not found one who was sensitive to it.

LICHEN PLANUS AND VITILIGO (LESIONS APPEARING IN PATCHES OF VITILIGO). Presented by DR. J. F. MADDEN.

Mrs. A. D., aged 42, a housewife, states that she has had vitiligo for twelve years. In July 1933, she noticed an eruption on her wrists and legs which appeared within the patches of vitiligo. The eruption is now generalized but more marked on the flexor surfaces of the wrists and the anterior surfaces of the legs and over the sacrum. The mucous membranes are free. Lesions appear also on the neck, shoulders, abdomen and thighs. The skin between the patches of vitiligo is free from eruption. The lesions are the flat-topped, angular, violaceous papules typical of lichen planus. The biopsy material is presented.

DISCUSSION

DR. J. F. MADDEN, St. Paul: I have never seen a case in which the lesions of lichen planus appeared in patches of vitiligo in preference to normal skin. Has any one an explanation for this?

DR. A. L. WELSH, Rochester (by invitation): I am studying lichen planus after the method of Jacob and Helmbolt with some variations of my own. I am not ready to report on the work, but I have found nothing which explains the distribution of the lesions in this case. I have been unable to obtain sufficient quantities of the causative organism for very thorough studies, and until I can get a larger quantity I have nothing to offer in the way of therapy.

PHILADELPHIA DERMATOLOGICAL SOCIETY

R. L. GILMAN, M.D., *Secretary*

Dec. 15, 1933

J. P. GUEQUIERRE, M.D., *Presiding*

TUBERCULOSIS CUTIS (ORIFICIALIS). Presented by DR. F. D. WEIDMAN and DR. R. L. GILMAN.

T. B., a white man aged 51, about three months ago noticed a small "boil" near the anus from which pus was discharged. A biopsy was done on Nov. 1, 1933, and the lesion failed to heal. On November 25, a biopsy was done in the Philadelphia General Hospital and reported as showing "ulcerative tuberculous proctatitis." The patient presents an ulcer 2 cm. in width involving the epithelium posterior to the anal canal and extending into the rectum. At the edge of the ulcer is a border of erythema about 0.5 cm. wide. The floor is covered with granulation tissue, and there is a thin layer of mucopurulent discharge. The patient has fibro-ulcerative tuberculosis of the upper lobe of the right lung with broncho genic spread to the left lung shown by roentgen examination. He has a daily rise in temperature to from 99.5 to 100 F.

About five months ago a positive Wassermann reaction of the blood was obtained, and the patient was given one intravenous injection of neoarsphenamine

(?); because of acute amblyopia which developed the next day and lasted for three months, he received no more treatment. There is no history of treatment with mercury or bismuth.

A blood count showed: red cells, 3,800,000; white cells, 12,300; polymorphonuclears, 64 per cent; lymphocytes, 32 per cent. The Kahn and Wassermann tests were positive. A smear for Donovan's bodies revealed none. The sputum was normal on three occasions.

DISCUSSION

DR. S. S. GREENBAUM: I wonder if further antisyphilitic treatment would have any effect on the ulcer. It seems unusual for a tuberculous ulcer of such an extent to be as anesthetic as this one. Marked pressure elicited no tenderness.

DR. J. H. STOKES: I think that the degree of pain varies with the person.

DR. ABRAM STRAUSS: I saw a girl with a similar lesion around the anus who felt no pain. However, that is the only such lesion that I remember seeing, so I do not know whether or not it is common to have pain.

A CASE FOR DIAGNOSIS (SYPHILIS?). Presented by DR. F. D. WEIDMAN and DR. R. L. GILMAN.

This colored man, aged 34, had painful lesions about the buttocks—large annular lesions and small cutaneous "abscesses" which were crusted and exuded serosanguineous and purulent material. Annular lesions were present also on both sides of the face and neck, the right forearm, the left arm and the left side of the chest. Both types of lesions were present in the groins. The genitalia and mucous membranes were free. The annular lesions varied from 2 to 5 inches (5 to 13 cm.) in diameter. The left leg was amputated in childhood following a gunshot wound, and the patient wears an artificial leg.

The lesions have responded to antisyphilitic therapy and have involuted in certain areas, but they persist on the right side of the neck and jaw and on the right forearm. There is still considerable itching in the groins. The provisional diagnosis was syphilis, but persistently negative serologic reactions (four tests) and negative results of examination of the spinal fluid modified that impression in spite of the fact that the patient gave a good response to intramuscular injections of a bismuth compound. Scrapings for fungi revealed none. The blood count was normal.

DISCUSSION

DR. D. M. SIDLICK: I believe that the lesions are lichen simplex caused by wearing an artificial leg. The trunk is free. There is nothing in the lesions to suggest syphilis.

DR. R. L. GILMAN: We were particularly interested in the annular lesions on the right forearm and the right side of the jaw.

MYCOSIS FUNGOIDES. Presented by DR. F. D. WEIDMAN and DR. R. L. GILMAN.

This colored woman, aged 24, was originally seen at the Philadelphia General Hospital on May 1, 1933, with ulcers on the legs of one month's duration. She had been under antisyphilitic treatment. The blood pressure was 94 systolic and 80 diastolic. She had a generalized, dry, scaly eruption of the skin with many scratch marks and scars, particularly on the lower part of the back and the buttocks. She also presented generalized discrete adenopathy. The original diagnosis was acute pustular eczema of both legs and mitral regurgitation. She was discharged from the hospital in June with marked improvement.

The patient was readmitted to the hospital on September 25, presenting crusting lesions over the legs, elbows and interscapular region, with extreme itching, which had appeared about two weeks previously.

There are now granulomatous confluent areas and plaques of a deep bluish-red color over the forearms, hands, axillae, back, sides of the neck and legs. The

scalp is covered with small patches of alopecia. There is general adenopathy. There is no history of ingestion of drugs.

A blood count on November 8 showed: white cells, 17,500; eosinophils, 4 per cent, and polymorphonuclears, 75 per cent. A blood count on November 24 showed: white cells, 10,700, and eosinophils, 5 per cent.

DISCUSSION

DR. D. M. SIDLICK: I understand that the results of biopsy support the diagnosis of mycosis fungoides, but clinically it is rather difficult to make a diagnosis of mycosis fungoides. The patient states that she has had extensive lesions for a year, but the induration is not as marked as one would expect to find it in mycosis fungoides, and the configuration of the individual lesions does not correspond to that of the lesions usually seen in mycosis fungoides.

DR. J. H. STOKES: When I saw the group of patients in the other room I threw up my hands and said: "This is the sort of thing that a county hospital produces." The vagabondish streak that is seen so frequently in public hospital dermatologic practice seems to come out in these patients. Dr. Fred Harris used to present before the Chicago Dermatological Society patients with similar eczematoid dermatitis which might be the beginning of almost any condition. Such conditions are hard to diagnose and still harder to treat because while the patients may get better in the hospital, they relapse after they leave. This patient's malady belongs in the same category. Only the most complete work-up, I imagine, can give any real clues. Biopsy is the only thing to lean on for the time being.

ACANTHOSIS NIGRICANS. Presented by DR. THOMAS BUTTERWORTH.

This white woman, aged 28, complains of thickened skin in the axillae and over the palms and backs of the hands and the soles and tops of the feet. The eruption is pruritic at times. The trouble began three years ago, during the sixth month of her last pregnancy. The delivery and the child were normal. The disease has progressed slowly, uninfluenced by season and only temporarily improved by local remedies. The patient's general health is good, and her past medical history is essentially irrelevant. No other member of her family has this condition, and her parents are not related.

There is a dirty gray discoloration of both axillae. The normal furrows of the skin are exaggerated, and although the skin appears rough it is soft to the touch. In some parts of the axillae there are small, light brown warty excrescences. The axillary hair is scanty. The palms and soles and the backs of the hands and feet are diffusely thickened and parchment-like. There are marked scaling and fissuring of these parts but no localized warty lesions. On the posterior half of the dorsum of the tongue there are from fifteen to eighteen scattered papillary growths the size of a pinhead and the color of normal mucous membrane. These lesions are not distributed in the region of the vallate papillae. The mucous membranes elsewhere appear normal. The skin is abnormally dry, with fine flaky scaling in some areas.

The blood pressure was 105 systolic and 70 diastolic. The thyroid gland is slightly enlarged, and the cecum is palpable. Otherwise physical examination gave negative results. The urine and blood were normal. The Wassermann test of the blood was negative. Roentgen examination after a barium sulphate enema disclosed a normal colon. The basal metabolic rate was +7 on two readings. Biopsy (performed by Dr. Fred D. Weidman) showed "hyperkeratosis and acanthosis with elevation of the epiderm into conical papillae, and inconspicuous pigmentation."

DISCUSSION

DR. S. S. GREENBAUM: I cannot subscribe to the diagnosis of acanthosis nigricans. If the condition can be classified, it belongs in the group of ichthyosiform erythrodermias developing late in life.

DR. THOMAS BUTTERWORTH: The clinical picture changes at times. The patient's hands cracked so much that she begged for treatment. She has not had any treatment for a week. If she receives none during the next week she will have a well developed discoloration of the skin in the axillae. I thought that the development of the condition during pregnancy had some significance. If the members cannot agree on a diagnosis, are there any suggestions as to treatment, particularly with endocrine products? The patient has been responding well to ointments containing salicylic acid.

DR. J. H. STOKES: I agree with Dr. Greenbaum that the condition is not acanthosis nigricans. It probably is erythrodermia ichthyosiforme. I suggest that the patient be given thyroid and anterior lobe pituitary.

ACUTE PEMPHIGUS. Presented by DR. F. D. WEIDMAN and DR. R. L. GILMAN.

This colored man, aged 25, was admitted to the Philadelphia General Hospital complaining of sores on the skin which had been present for four weeks. Until their appearance he had been well. The first lesion, apparently a blister appeared on the anterior portion of the chest. A week later similar areas appeared on the face, forehead, back, shoulders and arms. He was treated for impetigo.

There is now widespread, confluent, acute pemphigus. Nikolsky's sign was positive. The Pels-Macht phytotoxic test gave an index of 62 per cent. A blood count showed 8,400 white cells and 77 per cent polymorphonuclears. The Wassermann reaction of the blood was 4 plus.

Treatment with blood transfusions has resulted in no improvement.

DISCUSSION

DR. J. H. STOKES: Has a positive blood culture been obtained?

DR. R. L. GILMAN: A culture has not been made.

DR. J. H. STOKES: That would be worth trying. Sometimes such a condition clears after intravenous injection of a vaccine or of gentian violet. Patients with pemphigus usually have little chance of recovery, but with the butcher's type of pemphigus there is some chance.

DR. S. S. GREENBAUM: I have used gentian violet in half dozen cases with no result. I used mercurochrome in one case and obtained a remarkable result, only to have the patient relapse and die. In the next ten cases in which mercurochrome was used it failed. I was able to obtain results with the Davis treatment in one case, in which the patient was a Gentile. In all other cases this method failed.

DR. J. H. STOKES: In one case I obtained good results by the Davis treatment. The patient was older than this one and not as sick. His condition developed into chronic pemphigus. Tremendous arsenical keratoses resulted from the treatment, which prevented a fatal termination.

DR. S. S. GREENBAUM: My associates and I have used Bayer 205 fuadin and tryparsamide without results in such cases.

DR. PATRICIA DRANT: Dr. Ludy and I obtained good results in several cases. A man observed at the Methodist Hospital presented lesions almost as acute as those of the patient presented here. We gave him large doses of viosterol, a drachm three times a day; the results were splendid, and there has been no recurrence. Some of our patients have been under our care for only a year.

DR. R. L. GILMAN: Was viosterol given alone or in combination with ultraviolet irradiation?

DR. PATRICIA DRANT: It was given in part alone and in part together with ultraviolet irradiation.

NOTE.—The patient subsequently received methylene blue intravenously and died on Jan. 11, 1934.

FACTITIOUS ULCER OF THE LIP (SIMULATING EPITHELIOMA). Presented by DR. S. S. GREENBAUM.

J. S., an Italian girl aged 19, was admitted to the Graduate Hospital Clinic presenting a dime-sized ulcer with a soft border on the left side of the lower lip. It was covered with crusts at the time of entrance. The patient states that the lesion is of one year's duration. It began as a pea-sized vesicle, which enlarged to twice its original size. With the application of home remedies it healed completely and remained healed for two weeks. It then recurred, presenting much the same appearance that it now shows, although it was smaller. The crust was removed for examination at another hospital, after which the lesion enlarged to its present size and assumed its present character. The submental and submaxillary lymph nodes are slightly enlarged. The patient's general health has been good, and the past history is unimportant. The laboratory findings were normal.

DISCUSSION

DR. H. J. SMITH: When the girl first came to the clinic I think any one would have made a diagnosis of epithelioma. In a week's time the lesion changed so that it looked like a primary syphilitic lesion. After the tests were made I believe that the patient admitted that she produced the ulcer herself.

DR. D. M. SIDLICK: There is no healthy granulation tissue about the lesion. No matter how small or how extensive a factitious lesion is and no matter how frequently the irritating substance is applied, there is bound to be some healthy granulation tissue.

DR. H. J. SMITH: The ulcer has changed since the patient was told to stop picking it. It has healed about 50 per cent.

DR. J. V. KLAUDER: What is the patient's emotional background? Are the conjunctiva and the hard palate anesthetic?

DR. S. S. GREENBAUM: I shall test the patient's reflexes the next time she comes to the clinic.

NOTE.—The test of the reflexes was made. The corneal and palatal reflexes to pain, but not the cutaneous ones, were markedly diminished.

NEUROCUTANEOUS SYNDROME. Presented by DR. G. V. KULCHAR.

This white man, aged 29, presents a markedly symmetrical, erythematous, infiltrated, confluent dermatosis involving the anterior and posterior surfaces of the lower extremities and the extensor and flexor surfaces of the forearms. Symmetrical islands of normal-appearing skin may be seen within the area of dermatosis. Over the palms and soles there is considerable hyperkeratosis. Over the face the dermatosis is less infiltrated, and there are a few small nodular lesions resembling those of adenoma sebaceum. The dermatosis has been present since birth and has shown no remission or progression.

Physical examination showed an exostosis about 2 cm. in diameter over the occipital protuberance and a systolic murmur in the aortic and pulmonic areas. The hands are small and spadelike, and there is a bilateral malformation of the fourth toe.

The patient is somewhat retarded mentally. Neurologic examination showed moderately impaired mentality, a spastic gait and great exaggeration of all the tendon reflexes of the limbs. There was a bilateral Trommer sign as well as bilateral ankle clonus, more marked on the right side. The Babinski sign was negative. No sensory changes were noted. At times fine fascicular contractions of the muscles of the shoulder girdle, gluteal region and thighs have been seen. The duration of the neurologic symptoms is indefinite, but a slowly progressive course has been noted during the last four years.

The laboratory findings were normal.

A biopsy showed some hyperkeratosis with acanthosis in the epidermis. The vessels in the papillae were increased and dilated. The corium in general appeared thickened and fibrotic. There was no remarkable infiltration.

DISCUSSION

DR. J. V. KLAUDER: The lesion can be considered an extraordinary nevus. The neurologic picture can perhaps be correlated with the cutaneous abnormality on the basis of the observation that structural abnormalities do not exist singly.

DR. HERMAN BEERMAN: Dr. Kulchar has found several references for me. We have placed this case tentatively in the class of cutaneous diseases associated with abnormalities of the central nervous system. Two papers on this subject have appeared recently, one by Yakovlev and Guthrie (*Arch Neurol. & Psychiat.* **26**:145 [Dec.] 1931) and one by Schwarz and Abramson (*J. Pediat.* **3**:586 [Oct.] 1933). The first two authors called such conditions "congenital ectodermoses" and classified them in three types: (1) von Recklinghausen's disease; (2) Bourneville's tuberous sclerosis associated with adenoma sebaceum, and (3) vascular nevi of the brain associated with cutaneous nevi over the distribution of the fifth cranial nerve. Vascular new growths of the brain are divisible into two groups: angiomatous malformations, which consist of nerve and vascular tissue, and angioblastomas or true neoplasms (mesodermal). The latter affect the cerebellum especially and have been known under the name of Lindau's disease. They may be solid or cystic and are accompanied frequently by malformations of visceral organs and vascular new growths of the retina (von Hippel's disease). All such conditions are thought to be due to some abnormal development in the ectodermal cells; they involve electively different organs, such as the nervous system, skin, retina and eyeball. The fact that vascular nevi affect mesodermal structures (blood vessels) makes one think that there is some secondary involvement of the mesoderm.

Dr. Weidman described an autopsy in which cutaneous nevi were associated with nevi of the meninges. Dr. Spiller told me that while this patient's condition does not conform absolutely with Lindau's syndrome since the neurologic signs do not point to a cerebellar lesion, he thinks that it may be classified tentatively as that syndrome because he observed a case of nevi in association with cerebral rather than cerebellar lesions. The picture does not fit entirely into any of the three types mentioned but tends to resemble the third type.

DR. J. H. STOKES: This case afforded me particular pleasure because it fits in with a case that I saw at the Mayo Clinic of which I have a slide. The patient was a man in middle life who presented a nevus on each leg. The growths were absolutely symmetrical, with reticulated, finger-like involution and induration; they resembled lacelike ichthyosis hystrix but looked from a distance like extensive hypertrophic lichen planus. That patient also gave a history of the condition's being present since birth, and the only thing which brought him to the clinic was the development of a huge crateriform epithelioma over the tibia in the presumably nevoid tissue. I think that the case may aline itself with this one. However, the patient presented no neurologic symptoms.

One should accept with caution the statement that the patient has had the entire picture since birth. Some of the typical papules have developed in a vaccination scar; so something has happened since birth. That, of course, is not incompatible with a nevoid eruption, but it is curious that it should have occurred in this way. My associates and I hope to have the bones and skull examined roentgenologically. He is obviously oxycephalic.

DR. J. P. GUEQUIERRE: Did Dr. Spiller venture a diagnosis of existing organic lesions in the central nervous system?

DR. HERMAN BEERMAN: He thought that there might be a cerebral lesion. He based that opinion partly on clinical findings and partly on a somewhat similar case that he had seen.

DR. J. V. KLAUDER: What about the family history? Are the parents related?

DR. HERMAN BEERMAN: The family history is unimportant.

SECONDARY SYPHILIS. Presented by DR. J. V. KLAUDER.

This colored woman, aged 22, presents diffuse scars scattered over the entire cutaneous surface which are the remains of an eruption of secondary syphilis. Many of the scars are keloidal. The secondary eruption occurred five months ago. It was not resistant to treatment.

DISCUSSION

DR. S. S. GREENBAUM: I saw the patient last summer in the wards. She had been sent in from the receiving ward with a diagnosis of pemphigus. I made a diagnosis of precocious malignant syphilis. She had crust-covered ulcers on the areas which are now marked with hypertrophic and nonhypertrophic scars. The eruption cleared rapidly under treatment with bismuth and neoasphenamine. Four months have elapsed since the completion of the treatment. It is surprising to see the degree of hypertrophic scarring that has developed on the sites of many of the lesions. This is one of the few and one of the most typical cases of precocious malignant syphilis that I have seen in the past ten years.

DR. R. L. GILMAN: I have had a feeling that malignant syphilis is better illustrated by the type with a less happy ending. This patient shows a marked cutaneous response with an inherent tendency toward keloid.

LICHEN PLANUS. Presented by DR. A. D. KING.

L. P., a white woman aged 45, presents a generalized erythematous papulosquamous eruption showing predilection for the flexor surfaces of the forearms, the lower extremities and the back. There is white stippling on the mucous membranes of the right cheek along the lines of dentition. The genitalia are normal. The elementary lesion consists of a discrete, flat, shiny-topped papule exhibiting a violaceous hue. Special attention is called to the development of papules along the lines of incision made on both forearms during tests for allergy.

The process is of four weeks' duration, and it has been accompanied by marked pruritus. During the short period of observation there has been an increase in the number of papules, especially on the forearms.

DISCUSSION

DR. J. H. STOKES: This is an excellent case for Dr. King to show his allergist friends.

DR. S. S. GREENBAUM: Has anybody in this group corroborated the findings of Dr. Jacob with regard to a causative organism? This appears to be an active case in which it ought not to be difficult to show whether lichen planus is an infectious disease with organisms in the lesions.

DERMATITIS HERPETIFORMIS. Presented by DR. F. D. WEIDMAN and DR. R. L. GILMAN.

M. H., a white woman aged 80, was admitted to the Philadelphia General Hospital on Dec. 4, 1933, complaining of an extensive, symmetrical, grouped, bullous eruption with severe itching on the anterior surfaces of the thighs, legs, abdomen, back, shoulders and breasts. The eruption was of about three weeks' duration.

The bullae have dried up, and the condition is greatly improved, but new lesions develop occasionally. The patient is presented to illustrate the prompt response of dermatitis herpetiformis to treatment with chromium sulphate.

The laboratory findings were normal.

DISCUSSION

DR. S. S. GREENBAUM: The case is very unusual.

DR. R. L. GILMAN: I think that the diagnosis of dermatitis herpetiformis is valid. Several physicians who have seen the patient agree on that point. She is presented primarily to test Dr. Roussel's impression that chromium sulphate

helps such a condition. He suggested the use of chromium sulphate in a dose of 4 grains (0.24 Gm.) three times a day. There seemed to be a marked symptomatic and clinical response within four days. New lesions have occasionally developed since that time, but the patient is immeasurably better. Dr. Roussel was so insistent on the integrity of the treatment that he stated that if the eruption did not respond to chromium sulphate it was not dermatitis herpetiformis.

DR. S. S. GREENBAUM: Would it not be worth while to try the iodide test? I have treated five patients with dermatitis herpetiformis with a combination of antimony and bismuth, which to a large degree controls the pruritus.

DR. J. V. KLAUDER: Is this treatment superior to arsenic therapy? Does it cause the disappearance of subjective and objective symptoms more quickly?

DR. R. L. GILMAN: Yes.

DR. J. V. KLAUDER: Is not chromium sulphate irritating to the kidneys?

DR. R. L. GILMAN: I formerly believed so, but thus far this patient seems to have had no trouble.

TUBERCULID. Presented by DR. F. D. WEIDMAN and DR. R. I. GILMAN.

This colored woman, aged 31, was admitted to the Philadelphia General Hospital complaining of ulcers on the legs and giving a history of having had a genital sore in 1931 for which she received several injections in the arm and hip. The Wassermann and Kahn tests were both positive. She had a dermatitis of both legs, which was not diagnosed, and gonorrheal (?) leukoma of both eyes. She has had cervical adenopathy since 1921, having had two operations for it. She was discharged on June 10, 1933, and readmitted on December 5, complaining of fatigue and pain in the feet when walking. The skin over the legs and feet was dry and scaly. About three days after admission a fine, punctate, papular rash developed over the back and extremities, and soon afterward the temperature became elevated to 101.5 F. There is now a distinct, accuminate, papular eruption on the backs of both hands.

The report of the biopsy, performed by Dr. Fred D. Weidman, was as follows: "Histologically the lesions from both the back and the forearms exhibited the architecture of tuberculid. In some of the granulomas endothelioid cells were not present, but at least one giant cell could be found in each lesion."

DISCUSSION

DR. J. H. STOKES: The lesions are not tuberculids. The papules are not sufficiently indurated, and there is no definite necrosis and practically no scaling. I do not know what the condition is.

DR. R. L. GILMAN: The eruption on the back has been ascribed to iodides, according to the resident physician who elicited the history.

R. L. GILMAN, M.D., *Secretary*

Jan. 19, 1934

J. P. GUEQUIERRE, M.D., *Chairman*

ERYTHEMA INDURATUM. Presented by DR. G. V. KULCHAR.

D. M., a white woman aged 35, presents over the calves of both legs numerous dusky-red indurated plaques some of which display a tendency to become necrotic and ulcerated. She also presents papulonecrotic tuberculids on the dorsum of the right hand. Her general health has been fairly good. About eight years ago

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tuberculous glands were excised from the right side of the neck. When first seen in October 1932 she presented numerous papulonecrotic tuberculids on the dorsa of the hands and arms and several typical lesions of granuloma annulare over the fingers and hands, in addition to erythema induratum over the legs. All the lesions involuted after nineteen injections of gold sodium thiosulphate and nine injections of neoarsphenamine. The erythema induratum recurred six months later and is now of four months' duration. The papulonecrotic tuberculids on the dorsum of the right hand developed during the past week.

The laboratory findings were negative except for slight secondary anemia. Roentgen examination of the chest revealed nothing significant.

DISCUSSION

DR. F. D. WEIDMAN: One has to be careful to distinguish erythema nodosum from erythema induratum in this case. It is well known that erythema nodosum is not an etiologic entity; the virus of tuberculosis, syphilis or rheumatism may be the basis for it. This patient's condition is not ulcerative, and the nodes are exquisitely tender, but I still think that rather than to diagnose it as erythema nodosum I prefer to classify it in the rheumatic group. A biopsy should be made. I think that, pathologically speaking, the condition is rheumatic. Clinically, it is closer to erythema nodosum than to erythema induratum.

DR. C. S. WRIGHT: I take the opposite point of view, namely that the condition is more characteristic of erythema induratum. An interesting feature is that the woman also had granuloma annulare, according to the history, although it is not seen tonight. This might lead one to think that granuloma annulare belongs in the same group. In my experience this type of case may have a very bad prognosis. I have seen two or three in which the patients have later died of pulmonary tuberculosis.

DR. J. H. STOKES: This patient presents the picture that I am accustomed to interpret as papulonecrotic tuberculid with occasionally erythema induratum-like lesions on the legs, and sometimes lesions suggestive of erythema multiforme.

DR. F. D. WEIDMAN: Dr. Michael read a paper at the last meeting of the American Dermatological Association on the subject of granuloma annulare. He brought out that in the past dermatologists have been too much inclined to regard granuloma annulare as of tuberculous origin. Like erythema nodosum it probably is not always of tuberculous nature. I recall that I have the same attitude when studying a case of erythema elevatum diutinum, namely, that the histologic picture of granuloma annulare approached more nearly that of rheumatic than that of tuberculous conditions. In fact, the relationship between granuloma annulare and rheumatic conditions may extend into the clinical realm which causes the confusion between granuloma annulare and some cases of erythema elevatum diutinum. The granuloma annulare points as much to a rheumatic as to a tuberculous etiology in the patient under discussion. I think that a blood culture should be made. The extreme tenderness of these lesions and their deep-seated character make them resemble more the nodular type, such as those seen in rheumatic conditions, than a superficial disease like erythema multiforme.

DR. G. E. PFAHLER: Has roentgen therapy been used for erythema induratum?

DR. C. S. WRIGHT: When I was at the University of Michigan my associates and I treated a number of patients with the roentgen rays with good results. However, the results were only temporary; the lesions ultimately returned.

DR. J. H. STOKES: There is something that I might mention in regard to the septic features of these conditions. It is not uncommon in dealing with what appears to be a papulonecrotic tuberculid to find that it responds to such a measure as the removal of infected teeth. Dr. Guy of Pittsburgh cleared up two or three cases by an intestinal regimen, so there may be an interplay of a septic and a tuberculous factor in such cases. Sometimes one is hard put to decide whether one is looking at a "septid" or a tuberculid. Tuberculids are usually deeper, more indolent and less inflammatory and almost never pustular, whereas "septids" at

some point in their course present a crop of pustules and are inclined to be more superficial. They break down and become typically ecthymatous ulcers with a profuse purulent discharge and undermining borders. A series of blood cultures was attempted, but they did not show anything, probably because in such cases the septicemia disappears before the lesions have reached the stage of clinical recognition. On the other hand, the period when crops of lesions are appearing would be a good time to attempt blood culture studies. The organism is not one that grows easily or on ordinary mediums. One of the men at the University Hospital told me that a patient whom we had seen together had had a series of blood cultures made and that he discovered to his great surprise that cultures which had been kept thirteen days instead of the usual four showed a growth of organisms.

DERMATITIS HERETIFORMIS. Presented by DR. F. E. CORMIA for DR. J. H. STOKES.

This white man, aged 28, has grouped vesicular and bullous lesions with involuting annular remains and a few excoriations and some hyperpigmentation involving the face, neck and scattered areas over the trunk and extremities. The duration is about one and one-half years, and the general tendency is one of partial involution with subsequent relapses. There has not been any involvement of the mucous membranes, but at times there has been marked hyperkeratotic thickening of the soles. When first seen on Nov. 11, 1933, the patient presented many erythematous macular lesions, chiefly on the extremities, somewhat suggestive of erythema multiforme; at times the bullae were definitely hemorrhagic. There is no history of ingestion of drugs, except a solution of potassium arsenite, which apparently cleared the lesions at different intervals. The familial and past history are essentially unimportant.

An intradermal test made with a stock preparation of trichophytin was negative. In cultures from the nose and throat ten organisms were found, from which vaccines were prepared. The patient was tested intradermally with minute amounts of these vaccines. The tests were negative with the exception of two made with Neisseria catarrhalis, which caused a reaction on the skin. Scrapings taken from the feet were positive for fungi.

DISCUSSION

DR. J. H. STOKES: We presented this patient because we hoped he would show something more than he does. His condition furnishes a good illustration of several things. The first time he was seen he had an almost unbelievable number of bullae the most profuse crop that I have ever seen in dermatitis herpetiformis. The bullae literally hung on him, and most of them were hemorrhagic. He seemed to have profuse erythema multiforme. At the same time he had scaling of the feet and what looked like dermatomycosis on the palms, so that I entertained the idea that in spite of the herpetiform characteristics he might have an erythema multiforme type of dermatomycosis. We treated the condition as dermatomycosis. This case also furnishes a good illustration of how careful one must be in attributing improvement of dermatitis herpetiformis to anything one is doing. We saw the patient on Monday and planned to have him presented here three days later. When he came in all the lesions had cleared, and there was nothing to show. His eruption becomes better and worse, going up and down apparently with nervous stress. The patient is a student, and when he gets into a poor mental and nervous state the condition becomes worse. During vacation it gets better. He has not been treated with chromium sulphate. However, he is to be given the benefit of it. Arsenic afforded him some relief.

DR. J. P. GUEQUIERRE: I had a patient to whom I gave 4 grains (0.24 Gm.) of chromium sulphate three times a day, with plenty of water, and in forty-eight hours there was marked improvement. The next time I saw him he told me that he had slept for seven consecutive nights, so I continued to give him chromium sulphate. To my surprise he had a terrific flare-up. He was an intelligent patient who realized that I was experimenting with him and did not feel that his condition

had become worse because of the drug, but he stated that this was a more severe flare-up than he had ever had. I continued the treatment with chromium sulphate, and in another four days he was practically free from the eruption. At present the lesions are practically clear.

DR. ROSE HIRSCHLER: Have any studies of the blood been made?

DR. J. P. GUEQUIERRE: No. I had a urinalysis made, and as there were some hyaline casts I stopped the administration of chromium sulphate for about three days. The second urinalysis gave negative results, and I resumed the treatment.

DR. R. L. GILMAN: On looking up the dosage, I find that 4 grains (0.24 Gm.) is the minimum prescribed. The amount apparently ranges from 4 to 10 grains (0.24 to 0.6 Gm.) three times a day.

DR. J. P. GUEQUIERRE: When plenty of water is taken there are no untoward symptoms.

ARSPHENAMINE DERMATITIS. Presented by DR. HERMAN BEERMAN.

This white man, aged 30, on admission to the clinic on March 21, 1932, presented a psoriasiform eruption of secondary syphilis. He was treated with an arsenical. A patch test made on the day of the first injection was negative. At the end of a series of nine injections of the arsenical the patient complained of a patchy dermatitis of the hands and trunks. A patch test made on May 13 was negative. However, a patch test performed five days later showed a 2 plus reaction.

A physical examination at that time showed a full-blown follicular arsphenamine dermatitis especially on the face, forearms and chest. The blood count showed 10 per cent eosinophils. The patient was admitted to the hospital, where he remained for more than six weeks suffering from almost fatal dermatitis and nephritis with involvement of the eyes. During the height of the dermatitis it was noted that it was complicated by marked crural and interdigital dermatomycosis. On the patient's discharge from the hospital treatment with bismuth was resumed, an arsenic-free syringe being used. On November 2, a pompholyx-like eruption was noted on the fingers, and on November 14, the patient presented a widespread dermatitis which was considered as a recurrence of the arsenical dermatitis, a bismuth eruption or dermatomycosis. A patch test with neoarsphenamine gave a reaction 4 plus. The dermatitis cleared up in spite of continued treatment with bismuth. A trichophyton test on Feb. 24, 1933, was negative.

In June 1933 the patient again entered the hospital for ten weeks because of a generalized dermatitis with exfoliative changes. This visit to the hospital was stormy, and the eruption recurred three times during his stay. It was accompanied by bullous lesions on the palms and soles. On August 24, treatment with bismuth was cautiously resumed. On October 10, the patient had a flare-up of crural dermatomycosis, but the treatment with bismuth was continued, and on October 25 typical erythema multiforme-like dermatomycosis appeared. On November 14 the skin was again clear.

The patient was not treated for three weeks, and on his return on Jan. 5, 1934, he presented a vesicular eruption on the palms. The crura were normal. Four days after the injection of bismuth he noted a papular eruption on the forearms, a pityriasis rosea-like eruption on the flanks and axillae and typical dermatomycosis on the crura. Scrapings from the flanks and axillae were negative for fungi.

This patient is presented to illustrate the infective-allergic complex in arsphenamine dermatitis, especially with reference to the mycotic factor, as has been studied by Drs. Stokes and Kulchar. The case illustrates, as these authors have suggested, that "a hypersensitive patient with a bacterial or mycotic infection may sustain under arsenical or bismuth treatment either an exacerbation of his localized infection or a general sensitization explosion of exfoliative dermatitic character."

DISCUSSION

DR. J. H. STOKES: This patient is not shown because of what he presents at the moment but because a few days ago he had a pityriasis rosea-like eruption following bismuth, which we believe is one of the collateral effects of both bismuth and arsenic, a flare-up of mycotic processes already present on the skin. The whole story is told in the history. The patient presents a classic illustration of repeated flaring up of dermatomycosis under treatment with arsenic and with bismuth. The condition has flared up several times and has almost been fatal. We have a photograph which shows how conspicuous the dermatomycosis was in the picture of arsenical exfoliative dermatitis. The patient was saved by methods that do not seem to have much vogue in America—the administration of insulin, dextrose and liver extract. The case illustrates the infective-allergic complex which seems to underlie the onset of exfoliative dermatitis apparently due to arsenicals and which we think can be extended to the pityriasis rosea-like eruption which occurred under bismuth therapy.

DR. S. S. GREENBAUM: To what does Dr. Stokes attribute the severe dermatitis?

DR. J. H. STOKES: The patient had a severe arsenical dermatitis, but the stage was set for it by the dermatomycosis and the hypersensitivity to the mycotic infection. He was sensitized by his mycotic infection. He cannot take arsphenamine. Every time he does the dermatomycosis flares up. Moreover, if he takes bismuth it flares up, and if it flares up sufficiently, an exfoliative dermatitis develops.

DR. S. S. GREENBAUM: Is the exfoliative dermatitis tineal, or is it due to the drug?

DR. J. H. STOKES: I should attribute it to both causes. The man is sensitized by his infection so that a drug, either arsenic or bismuth, precipitates an eruption. Similarly, I suppose one could say that the fact that he takes the drug sensitizes him to the mycotic situation and makes him "explode."

DR. S. S. GREENBAUM: This case is of interest to me for two reasons. The first is that at the Graduate School my associates and I have not seen any exfoliative dermatitis except for several mild cases due to bismuth in several years. This may be because we are using smaller doses of drugs. The other thing of interest is the fact that the patient gave negative reactions to patch tests before and for some time after the dermatitis, corroborating what Sulzberger found several years ago, namely that the patients who had dermatitis gave negative reactions, to the patch test while those who gave positive reactions did not have dermatitis.

At the Philadelphia General Hospital syphilis clinic no exfoliative dermatitis has been seen in the past year and a half, and rather small doses are being used in the outpatient department.

DR. F. D. WEIDMAN: Speaking of the pityriasis rosea-like eruption, since Benedek maintains that Schizosaccharomyces is the cause of pityriasis rosea, one should catalog the specific fungi in cases of this sort so that one may get somewhere in regard to possible interrelationships; that is, a severe general upset in connection with arsenical therapy would determine the presence of Schizosaccharomyces or some other species of fungi in the cutaneous lesions, perhaps from the blood.

DR. J. H. STOKES: We had one patient, who, I think, has been shown here, who following a patch test with neoarsphenamine had a flare-up in the typical sites of dermatomycosis. Another patient had four successive explosions of exfoliative dermatitis which were ascribable to four things—a feather bed, erysipelas and prodigiosus toxins, arsphenamine and bismuth—in a period of eight years. Each time we straightened out the factor concerned, and then along came the next thing.

CIRCUMSCRIBED PLAQUELIKE TYPE OF MYXEDEMA. Presented by DR. V. C. GARNER.

S. B., a white man aged 47, presents brawny, "pigskin" plaques over the anterior surfaces of the lower part of the legs associated with nondescript superficial scars. He had a thyroidectomy in 1931 and a second thyroidectomy in 1932, followed by

roentgen therapy over the sternum for three months. There is no clinical evidence to suggest hypothyroidism. The basal metabolism rate was + 11. He has exophthalmos and auricular fibrillation.

DISCUSSION

DR. F. D. WEIDMAN: I agree with the diagnosis even though a biopsy has not been made. I am curious to know, though, whether there is any amyloid infiltration in addition to the mucoid infiltration. I recall that some of the lesions in the illustrations of amyloidosis cutis, while not specifically mentioned as localized myxedema, impressed me as possibly being that condition. There is a close chemical relation between mucin and cartilage. It would not be a very far step from a mucoid substance to some combination with sulphuric acid. If a biopsy had been done I should recommend examination for amyloid.

DR. J. H. STOKES: O'Leary has solved the question of prognosis in such cases. The lesions all clear up spontaneously. It is interesting to see a patient with myxedema of the skin and a basal metabolic rate of + 58. I remember one patient who was "jittering" in bed with myxedema on her shins and the tops of her toes.

INFANTILE ACNE (?). Presented by DR. F. E. CORMIA for DR. J. H. STOKES.

This white girl, aged 3 years, is presented to show unusual and long-standing acne not only on the face but to some degree on the extremities. The eruption is scattered, acneiform and associated with many milium-like lesions. It has been present since infancy and has not given rise to any unpleasant subjective symptoms. The family history discloses that an uncle had severe infantile eczema. The patient's father had boils, numerous abscesses and infected cervical glands. An aunt was subject to urticaria, and an uncle died of diabetes.

DISCUSSION

DR. J. H. STOKES: I showed this patient for therapeutic suggestions. The father and mother came to me desperate about the disfigurement of the child. The condition is probably related to one which Ayres described as infantile acne. When the child is on a high carbohydrate diet the little milia apparently become infected and she sometimes has a considerable crop of pustules. When her diet is corrected there is no eruption. The lesions are not confined to the face but occur all over the body. I was not able to recognize any other changes except a gradual loss of hair; I did not see any moniliathrix or anything of that sort. I think that the child's rubbing of the areas is nervous. She has a secondary eczematous process. The family does not want her to have roentgen therapy, and she is too young to have the individual lesions opened.

DR. R. L. GILMAN: I think that the point is: On how young a patient is it advisable to use roentgen therapy? My feeling would be that it is not wise to use it on a patient under 13 years of age.

DR. J. H. STOKES: I always postpone roentgen therapy as long as I can because the effects are not lasting. This patient keeps aquiring new crops of lesions which gradually stick out like little grapes; she picks them off and then new ones appear. I thought that one might produce atrophy of the sebaceous glands by roentgen irradiation, but I was not anxious to try it. I have tried producing scaling with an exfoliating paste and similar measures. There seems to be an inexhaustible supply of the milia. The patient is gradually acquiring a fine, miliary, pitting atrophy of the face.

DR. F. D. WEIDMAN: Is it Dr. Stokes' feeling that the condition is acne vulgaris? There are comedones on the forearms and even on the backs of the hands.

DR. J. H. STOKES: No, this condition does not have any relation to acne, but the clinical picture resembled acne and then became secondarily infected.

DR. F. D. WEIDMAN: Blashko, in describing a case of acne zosteriformis, stated that he felt that there was some connection between the sympathetic nervous system and follicular dermatoses. The zosteriform distribution indicated a sympathetic effect in the particular region supplied by that particular branch of nerves. His idea was that vagotonia induced an abnormal spasm of the arrectores pilorum, and that in turn disturbed the escape of secretion of follicles and led to the development of comedones. It may be that this patient has some congenital nervous upset which is giving rise to the development of comedones, i. e., that it is not a local dermatosis at all.

DR. D. M. PILLSBURY: About two years ago I presented a patient with what I thought was folliculitis ulerythematosa reticulata which was associated with infection with Monilia, as is the rule. There was some question as to whether that diagnosis was correct because of the absence of definite reticulation in the patches of pitted atrophy. The girl had a thinning of hair very similar to that of this child. I am wondering whether the two conditions are not associated—whether possibly the thinning of the hair is a part of the picture of moniliasis in children. An older sister of my patient also had moniliasis.

CHICAGO DERMATOLOGICAL SOCIETY

MAX S. WIEN, M.D., *Secretary*

Regular Meeting, Dec. 20, 1933

OLIVER S. ORMSBY, M.D., *President, in the Chair*

ECZEMATOID PSORIASIS. Presented by DR. S. W. BECKER and DR. M. E. OBERMAYER.

This white boy, aged 14, born in Chicago of Austrian parents, was first seen two years ago, at which time the following history was obtained:

An eruption started at the age of 6 months on the forehead. Following treatment, the eruption became generalized. It remained widespread for some time and then almost cleared. At the age of 6 a generalized eruption again developed, which later cleared except in a few areas where it has been present ever since. Pruritus was marked only at the onset. For some time there was a discharge from the ears.

General examination gave essentially negative results. The blood count was normal (no eosinophilia), the reaction to tuberculin was negative and the Wassermann and Kahn reactions of the blood were negative.

The eruption involved the scalp, the regions behind the ears, the eyelids, the axillae, the groins and the legs (diffusely from the knees to the ankles) and consisted of lesions of the papulosquamous type, mostly diffuse, with pustulation and oozing here and there. The ears showed bilateral external otitis secondary to the cutaneous condition; the eyes, bilateral conjunctivitis and blepharitis.

Histologic examination of a specimen taken from the left leg showed a subacute or chronic inflammatory dermatitis of internal origin.

A diagnosis of chronic seborrheic dermatitis was made. The condition responded slowly to treatment, and the patient was discharged.

Shortly afterward he presented himself again with a recurrence at the same sites, the lesions being for the most part follicular pustules. The condition again responded slowly to treatment, and he was discharged. Almost one year afterward there was another recurrence. The eruption was generalized and papulopustular, interspersed with papulosquamous lesions of the psoriatic type. In the sites of the former eruption, however (especially on the legs), lesions of the diffuse, oozing type were seen, as before.

Histologic examination was repeated. One specimen, taken from the trunk, showed psoriasis vulgaris with a tendency toward the pustular type; the other, taken from the thigh, presented an atypical though still psoriatic picture.

Since that time the patient has been treated for psoriasis, and his condition has improved.

The essential features of this case are: (1) the diffuse, oozing, eczematoid eruption on both legs, (2) the occurrence of a widespread pustular eruption, and (3) the histologic observations conforming to the various forms of manifestation, namely, psoriasis, pustular psoriasis and chronic eczematoid dermatitis.

DISCUSSION

DR. WILLIAM ALLEN PUSEY: I think that the condition is a pustular dermatitis of the type occasionally reported as progressing to the production of vegetations on the legs. The lesions show a distinct tendency to vegetation. In the distribution and sharp outlines of the lesions, I was struck by the similarity to cases reported by Hallopeau and later by Wende and Hartzell as instances of dermatitis vegetans. I think that the condition is chronic dermatitis due to infection by pus organisms in a person not careful about cleanliness.

DR. M. H. EBERT: This case has several features, including the histologic picture, which suggest psoriasis. All dermatologists have seen cases of dull red plaques which occur between the nates, about the genitalia and in the axillae, at times with seborrheic lesions of the scalp, which are regarded for some time as in a questionable category. At a later date papules and plaques with typical psoriasiform scaling appear, as well as other symptoms which make the diagnosis of psoriasis evident. The eruption presented by Dr. Becker's patient suggests that type of case. However, the lesions about the genitalia and in the pubic area are more follicular and less plaquelike than those usually seen. In addition, the margins of the eyelids are involved in a manner which I have never seen in the seborrheic type of psoriasis. However, Dr. Obermayer tells me that at times the patient has exacerbations during which he presents papules with typical psoriasiform scaling which make the diagnosis of psoriasis likely. In the microscopic section intra-epidermal pustules were seen, but these are not visible grossly. I am inclined to classify the condition as infectious dermatitis rather than as psoriasis.

DR. C. W. FINNERUD: As Dr. Ebert mentioned, occasionally one sees an eruption limited to the scalp which is regarded definitely as seborrheic dermatitis but which later proves to be psoriasis on the development of characteristic lesions on the trunk and extremities and at times an associated pitting or distal undermining and thickening of the nails. When the changes in the nails are present, the diagnosis is definite. Two of the histologic sections in the case presented here are strongly suggestive of psoriasis.

DR. HAMILTON MONTGOMERY: My associates and I have observed several cases of psoriasis in which the disease was limited to the areas which are involved in this case and looked at times like seborrheic dermatitis and at other times like psoriasis. In these borderline cases histopathologic studies are likely to be inconclusive. A diagnosis frequently can be arrived at only through prolonged observation. I believe that the case presented is one of psoriasis with pustulation with a seborrheic distribution rather than one of so-called pustular psoriasis.

DR. J. H. MITCHELL: I should like to know what the cultural findings were. Seborrheic dermatitis behind the ears in my experience is commonly due to streptococcic infection. I have observed one case following streptococcic otitis media and another following a mastoid operation. I think that it would be well worth while, for the information of all of the members, to make cultures of the postauricular lesions and of the inguinal folds for streptococci.

DR. M. E. OBERMAYER: I am grateful for this interesting discussion. We feel that our diagnosis of psoriasis is much as Dr. Ebert has stated. I wish to emphasize that the lesions that we saw about a year ago were actually those of generalized psoriasis. Another point is that the patient responds only to anti-

psoriatic treatment. The diffuse, oozing lesions on the legs in psoriasis are of different form, they seem to occur principally in regions below the knees, which suggests a status background, and they are most commonly found in psoriasis of pustular type. We gave the patient roentgenotherapy in one area, and it did not change the condition at all. No cultural studies have been made.

LUPUS MILIARIS DISSEMINATUS FACIEI. Presented by DR. OLIVER S. ORMSBY and DR. HAMILTON MONTGOMERY.

This man, aged 41, presents a cutaneous disorder of ten months' duration. The lesions are situated on the face and are most abundant on the lids, about the angles of the mouth and on the nose though other portions of the face are also involved. The first lesions appeared on the lower lids and the upper lip. Information as to the evolution of the lesions during the first four months is not obtainable. Since the patient has been under observation new lesions have continually appeared, and the old ones have cleared. The chief lesion is a pinhead-sized, brownish-red, flat-topped papule. Under diascopic pressure a brown discoloration remains which resembles that in an ordinary lupus nodule. Some of the lesions are capped with a pustular crust or a small necrotic area. In addition to this type of lesion, numerous pustules have developed from time to time which appeared to be independent of the characteristic lesions. A general examination was reported by Dr. O'Leary to reveal no abnormal findings.

Histologic examination of sections showed a tuberculoid reaction extending practically throughout the corium and consisting of an abscess, possibly primarily follicular, surrounded immediately and particularly below by necrosis and then for a considerable distance to the sides and below by a cellular infiltration, at first dense and diffuse and farther out patchy, of lymphocytes and plasma cells in ill defined or well defined nests of epithelioid cells. Giant cells were few.

DISCUSSION

DR. H. E. MICHELSON: I think that one should look on lupus miliaris faciei as one of the fairly stable types of tuberculosis of the skin. It has been my experience that the lesions stay *in situ* much longer than do papulonecrotic tuberculids.

DR. RUBEN NOMLAND: I have long been interested in studying somewhat similar papular lesions on the face of Negroes. I have considered such lesions to be sarcoid, and after seeing this patient, I am more than ever convinced that they are sarcoid. They differ from those in this case in that they have shown none of the yellow-brown color present here, they have disappeared in two cases and left atrophic areas but not scarring such as is present here and, finally, there have been no necrotic pustule-like lesions such as those shown here.

DR. HAMILTON MONTGOMERY: This type of eruption will probably always be called lupus miliaris disseminatus faciei because that term has been in the literature so long, although actually it is a form of hematogenous tuberculosis and has nothing to do with lupus vulgaris. The latter is essentially a localized form of cutaneous tuberculosis. The condition under discussion is to be distinguished clinically and histologically from other forms of hematogenous tuberculosis, such as lichen scrofulosus and papulonecrotic tuberculids. Histologically, the latter two conditions show less caseation necrosis and a less marked tuberculoid structure than lupus miliaris (tuberculosis cutis follicularis disseminatus). Some time, I believe, dermatologists will group the hematogenous forms of tuberculosis together and be content with that classification. In many cases that are shown at meetings multiple morphologic types of hematogenous tuberculosis are seen in the same patient at the same time.

DR. OLIVER S. ORMSBY: I presented this case because there is apparently a great deal of confusion about the type of case that should be included under this title. Recently Dr. Tauber reported three cases in colored persons with lesions on the face that evidently were of different types since they had lesions in other

areas. Dr. Nomland presented a patient before this society whose lesions had much the same appearance as those in this case; in addition, however, there were lesions on the trunk, and recently some of them have broken down and exhibited activity not usually seen in sarcoid. I think that Dr. Montgomery's last statement clarifies the question. These nodular lesions may be described as tuberculosis of the lupus miliaris disseminatus faciei type.

A Case for Diagnosis (Allergic Dermatitis?). Presented by Dr. E. P. Zeisler.

This man, aged 43, has a chronic recurring cutaneous disorder of two years' duration. During this time he has been examined in various clinics and has been hospitalized several times, and a large number of methods of treatment have been used, with only temporary relief. The results of cutaneous tests, the blood count and the blood chemistry, according to his statement, have been normal. There is no history of any external irritant, and as far as the patient is aware he has not been treated with arsenic. He failed to respond to injections of sodium thiosulphate.

He now has chronic lichenified erythrodermia, involving chiefly the arms, face, scalp, neck and upper part of the chest and body, with scattered erythematous areas on the rest of the trunk, in the groins and over the lower extremities. Adenitis is not marked.

A blood count made today showed: erythrocytes, 5,060,000; leukocytes, 9,500, and hemoglobin, 80 per cent. The differential count showed: polymorphonuclear neutrophils, 53 per cent; lymphocytes, 26 per cent; monocytes, 2 per cent, and eosinophils, 19 per cent.

The various possible diagnoses appear to be: (1) chronic lichenified, possibly arsenical, erythrodermia; (2) erythrodermia of lymphoblastomatous origin that will eventually show frank leukemia or Hodgkin's disease, and (3) lichenified eczema or a disseminate neurodermatitis of unknown etiology.

DISCUSSION

Dr. F. E. Senear: Dr. Zeisler covered the diagnostic possibilities in such a way that there is not much to add, except perhaps to express an opinion as to which of the several diagnoses one favors. It is my feeling that the condition is probably a generalized neurodermatitis. That is, the eczema or dermatitis is on an allergic basis rather than on a lymphoblastomatous one. Dr. Zeisler said that the patient was under observation at the Research Hospital and was apparently not benefited, so I can add nothing.

Dr. William Allen Pusey: It seems to me that the term allergic neurodermatitis is contradictory. If a man has an allergy, say to primroses, and a chronic dermatitis develops, I do not see how one can call the condition neurodermatitis.

Dr. F. E. Senear: I did not use the term neurodermatitis to imply that the condition was neurogenic. Perhaps the word neurodermatitis is too broadly used, but I use it in the sense in which it is used principally abroad and in which Sulzberger has employed it in this country, as referring to eruptions that are probably on an allergic basis to distinguish them from dermatitis caused by the action of an external irritant to which the patient is sensitized.

Dr. William Allen Pusey: The objection that I have is to pulling in the neurotic factor. My understanding of allergic dermatitis is the same as Dr. Senear's. Why it should be called neurodermatitis I do not know, and it seems to me that it is confusing to bring in the mental factor. If I made a diagnosis in this case I should say that the condition is a dermatitis and that the case needs investigation for external irritants. The fact that the man has had the eruption for a year does not mean that it is not due to external irritation. It may be complicated by an underlying condition, such as seborrheic dermatitis, but I think that no one can make a more specific diagnosis than dermatitis by

such inspection as can be given here. I can make a diagnosis of neurodermatitis only after all the other factors mentioned have been excluded, and I do not think that they can be excluded without extremely careful and prolonged research.

DR. F. E. SENEAR: I am in thorough accord as to the use of the term neurodermatitis, feeling that its use has led to much confusion. I used this term not because I thought that there was any neurotic background for the eruption in this case but only because it has crept into the literature and is now widely used in the sense employed here.

DR. J. H. MITCHELL: In my opinion the only justification for calling this condition neurodermatitis is that patients with such eruptions are nervous about the dermatitis.

DR. HAMILTON MONTGOMERY: My associates and I have dropped the term allergic dermatitis because of the confusion that arose, and we are calling such eruptions atopic or contact dermatitis, recognizing that in certain instances both groups of factors may be present in the same person.

DR. E. P. ZEISLER: I am grateful for the discussion, but it does not quite explain the etiology of neurodermatitis. I think that there is a secondary as well as a primary condition. Many of the cases have been studied from the allergic point of view, and a number of patients have given positive reactions to silk and other materials, but I do not think that that explains the condition. In one case of disseminate neurodermatitis Sulzberger reported fifty-six positive reactions to various proteins, and it is obviously impossible to eliminate that many proteins in the diet. I think that Dr. Pusey's opinion is correct.

ACRODERMATITIS CHRONICA ATROPHICANS WITH MACULAR ATROPHIC LESIONS ON THE BODY. Presented by DR. RUBEN NOMLAND and DR. E. R. STRAUSER.

This white man, aged 58, single, a carpenter, complains of constant pruritus of the legs, thighs and arms of twelve years' duration, which becomes more marked on exposure to cold. He noted no change in the appearance of the skin when the pruritus first appeared, but after a few years the skin seemed red and smooth, and about three years ago it became sore about the ankles.

There is atrophy of most of the skin of the legs, thighs, backs of the hands, elbows and flexor surfaces of the arms. The skin is thin and translucent, with veins showing through. Much of the hair has been lost in the involved areas. In the midline of the lower part of the back is a group of round, pouched-out, atrophic areas varying in size from that of a dime to that of a quarter.

On histologic examination, the macular atrophic lesions showed irregular destruction of elastic fibers in the midcutis and the deeper portions of the cutis. There was some dilatation of the blood vessels, with infiltration about them. The skin of the thigh showed complete disappearance of elastic fibers, especially in the upper cutis, and a marked inflammatory reaction consisting of round cells about the dilated vessels.

DISCUSSION

DR. WILLIAM ALLEN PUSEY: This is a clearcut case of symmetrical atrophy of the extremities. The interesting feature is that the lesions resemble very much multiple benign tumor-like new growths, and no doubt the mechanism is the same. I think that there is a connection between the atrophy of the legs and the lesions on the body, and the combination is certainly interesting.

DR. C. W. FINNERUD: I think that there is a distinct difference between the atrophic lesions on the back and the ordinary lesions of macular atrophy, the lesions presented by this patient being firm and hard and containing from one to four comedone-like plugs or gaping follicle mouths. The sections were not suggestive of syringocystoma.

DR. WILLIAM ALLEN PUSEY: I referred not to the condition called macular atrophy but to the lesions in which there has been subepithelial connective tissue atrophy similar to that which one sees in multiple benign tumor-like new growths.

DR. RUBEN NOMLAND: I am surprised that there is not more destruction of elastic tissue in the macular lesions on the back. There is some, but not much.

LUPUS ERYTHEMATOSUS ACUTIS. Presented by DR. J. H. MITCHELL.

This patient was presented at the October 1933 meeting of the society (ARCH. DERMAT. & SYPH. **29**:465 [March] 1934). She is presented again to show how the activity of the disorder has decreased until only residual pigment remains. The improvement immediately followed the administration of calcium gluconate intravenously and of calcium lactate by mouth. No lesions on the arms and hands have entirely cleared.

DISCUSSION

DR. H. E. MICHELSON: Probably all of the members have seen cases of lupus erythematosus which might be called potentially acute; that is, the lesions were neither of the chronic nor of the peracute type. Such eruptions persist, sometimes better, sometimes worse, and then some factor brings about activity and dissemination.

DR. E. A. OLIVER: The patient complains of pain in the joints, which I think is significant.

DR. E. P. ZEISLER: Some of the members may recall the patient with subacute lupus erythematosus which resembled lichen planus whom Dr. Caro presented about two months ago. I saw that patient last week, and the lesions have almost entirely involuted under treatment with intramuscular injections of a bismuth preparation. It may be well worth while to use bismuth in small doses in cases of this type.

DR. C. W. FINNERUD: I recently saw a patient who had a similar marked exacerbation resulting from an injection of a gold compound. That patient had a discoid eruption of the face and scalp of several years' duration. The acute symptoms subsided after injections of sodium thiosulphate, and the original eruption has practically cleared as a result of a dozen intramuscular injections of a bismuth preparation.

DR. HAMILTON MONTGOMERY: The histopathologic picture in this case, I believe, is definitely that of subacute lupus erythematosus and not that of lichen planus. I wish to support Dr. Oliver's statement regarding the pain in the joints. Dr. O'Leary in a recent study found that in 75 per cent of the cases of lupus erythematosus seen in the clinic in which dissemination occurred, arthritic symptoms and often a mild febrile reaction preceded or accompanied the dissemination of the disease.

DR. O. H. FOERSTER: In the disseminated type the blood findings may give some information, a progressing leukopenia indicating continued activity and a less favorable outlook.

DR. M. E. OBERMAYER: The beginning silvering of the lesions is also an early symptom of dissemination.

DR. J. H. MITCHELL: As I said in presenting the patient, my associates and I kept her in the hospital and did everything that we could. I think that Dr. Becker will agree with me that when he first saw her the condition did not suggest lupus erythematosus, and when I saw her it certainly did not; nevertheless, we had that possibility in mind constantly. She was given one minute dose of gold sodium thiosulphate and later another dose, and just before she went to the hospital a bright red erythema developed on the cheeks. While she was in the hospital the entire face became erythematous and lesions appeared on the elbows and hands, and I was convinced that the condition was rapidly becoming lupus erythematosus exanthematicus. As I had given the patient a great deal of sodium thiosulphate before she entered the hospital and during her stay another series of injections, I gave her instead calcium gluconate intravenously and calcium lactate by mouth. She immediately improved. The leukocyte count has varied

from 3,800 to 5,300. The whole picture is that of potential lupus erythematosus exanthematicus. I thought that it might be of interest to see the progress of the case.

LEPROSY. Presented by DR. THEODORE CORNBLEET and DR. E. R. PACE.

E. G., a Filipino aged 25, who came to this country eight years ago, presents an eruption of five weeks' duration. There had been no prior illness, but the onset was accompanied by pains in the arms, throat and knees, mild chilliness and hoarseness.

When first seen three weeks ago he showed well defined, shiny, infiltrated, somewhat elastic nodules varying from 1 to 2.5 cm. in diameter. Many were discrete, but most of those on the face and neck were coalescing, although maintaining their identity. The eruption was most profuse on the face and forehead, less marked on the upper extremities and sparse on the trunk. There were no subjective symptoms and no areas of anesthesia, and except for nasal congestion there were no abnormal physical findings. The palpable nerve trunks were not enlarged. During the past three weeks the nodules have increased in number, there has been a morning temperature as high as 101 F., the ulnar nerve trunks have seemingly become thickened and many lesions have become scaly.

This patient is a brother of S. G., who was in the Cook County Hospital about three years ago and was shown at a meeting of the society, it being thought that he had leprosy. At that time smears and biopsy material seemed to show Bacillus leprae. Subsequently he was sent to Carville, La., where the authorities after a period of observation discharged him as nonleprous. The patient spent his childhood and youth (up to eight years ago) with this brother and also lived in the same room with him during the six months prior to the appearance of his eruption, about four years ago. Since the brother's discharge from Carville they have occupied separate rooms.

Nasal smears on the patient's entrance to the hospital (three weeks ago) showed a few acid-fast bacilli, scattered and not in cells. Smears made last night showed none.

On biopsy the corium contained many areas of infiltration typical of lepra, some of them surrounding thickened nerve fibers. Acid-fast bacilli were present in this infiltrate and in the nerves.

DISCUSSION

DR. H. R. FOERSTER: This case is especially interesting because clinically the condition is typical nodular leprosy. As I recall it, the picture is almost identical with that exhibited by the patient's brother when he was presented before the society last year.

DR. RUBEN NOMLAND: The brother had a leprous eruption identical with that which this man presents. B. leprae was found both at the Central Free Dispensary and at the University of Illinois, but later the diagnosis was not definitely accepted elsewhere. The organism and the lesions are the same, and I think that the two brothers have the same type of the disease.

DR. THEODORE CORNBLEET: I am under the impression that the authorities at Carville rejected the diagnosis of leprosy in the case of this man's brother for the sole reason that they could not find B. leprae. It is interesting that the first day we saw the patient we found organisms in the nasal smear but we could find none yesterday though Dr. Nomland was able to demonstrate many in the lesions themselves. The nose shows some lesions and is considerably congested. This seems to bring into doubt the efficacy of demonstrating organisms from the nasal smear 100 per cent of the time and making the diagnosis according to that finding. I saw the patient's brother last night, and so far as I could tell he is now normal. When he went to Carville the lesions had involuted, and the authorities could not find B. leprae in the nasal smear. That is rather enlightening in connection with the facts which I have just brought out.

HEMANGIOMAS IN LIPOMATOSIS. Presented by DR. F. E. SENEAR and DR. THEODORE CORNBLEET.

This white man, aged 23, first noticed the present changes in his skin about a year and a half ago. General physical examination gave negative results.

The lesions have increased slowly in size and in number until the skin is studded here and there with discrete lesions, chiefly on the trunk with a few on the extremities. They vary in size from that of a pea to that of a walnut and are soft, smooth and not apparently lobulated. They move with the skin but do not seem to have any strong attachments. The normal color of the skin is modified by a distinct lilac blue showing through from below. There are no subjective symptoms.

DISCUSSION

DR. OLIVER S. ORMSBY: The proper classification of this case can be determined only by histologic examination.

DR. C. W. FINNERUD: I noticed some new and old vascular tissue in the little pedicle that was continuous with the capsule but no increase of vascular tissue elsewhere. The lesions may be merely simple lipomas without an associated true angiomatous element.

DR. HAMILTON MONTGOMERY: I think that the small portion of the section where vascular tissue is present is significant because under fairly high magnification one can definitely see open-ended capillaries, which is indicative of formation of new blood vessels. The presenters certainly are justified in the suggestion of hemangioma. This would account for the color seen clinically. The diagnosis of lipoma must rest more on the gross appearance of the lesion at the time it was excised than on histopathologic study.

DR. J. H. MITCHELL: What did the material look like microscopically when it was cut into?

DR. THEODORE CORNBLEET: Some of the lesions clinically showed a bluish discoloration that is not evident over ordinary lipomas. Moreover, it seems to me that the diagnosis of lipoma does not explain the vascular tissue which is definitely present. I think that it cannot be denied that there is a lipomatous element. One cannot say that it is an exaggeration of normal vascular tissue which might occur with lipoma.

ESTHIOMENE, PROBABLY LYMPHOGRANULOMATOSIS INGUINALIS. Presented by DR. S. J. ZAKON for DR. A. W. STILLIANS.

This Jewish widow, aged 36, was seen at the syphilis clinic of the Mount Sinai Dispensary on Sept. 10, 1931. She gave a history of having been treated for syphilis in the past eight years. She was operated on for an obstruction of the bowel six years previously and tonsillectomy was performed ten years previously. Her husband had died eight years before from heart disease and syphilis. Two children were living and well.

Examination at the clinic revealed a rectal stricture and elephantiasis of the labia majora and minora, with ulceration of the left labium. The Bartholin glands were destroyed. Two Frei tests made with different antigens were strongly positive. The patient received adequate antisyphilitic therapy, and her serologic reactions are now negative. She was given eight injections of a Frei antigen, but the lesions did not improve. On Nov. 2, 1933, the left labium majus was extremely indurated and hyperplastic, showing evidence of having been lacerated. and adhesions attached it to the right labium. The left labium minus presented a large ulcer with an infiltrated border. About 4 cm. above the anal opening was a partial rectal obstruction which the finger could not pass, and two sinuses were noted posterior to the anal margin. There were no palpable inguinal glands. Vulvectomy was advised and was performed on November 17, with removal of the labium minora, the clitoris and part of the labia majora. The patient made an uneventful recovery.

Histologic examination of sections from the ulcer on the left labium majus showed a thick leukocytic and fibrinous exudate covering the surface. Underneath there was young granulation tissue with many giant capillaries, fibroblasts and some newly formed connective tissue. In addition there was a dense infiltration with plasma cells and lymphocytes extending deep into the underlying tissue. Still deeper this change was followed by the presence of nodules consisting of lymphocytes and epithelial cells and many giant cells with numerous peripheral nuclei surrounding a pink-staining homogeneous material. These accumulations showed the typical morphologic characteristics of tubercles.

DISCUSSION

DR. A. W. STILLIANS: The histologic picture resembles that of tuberculosis, and that diagnosis was made by two general pathologists. Our diagnosis was based on the positivity of the Frei test with different antigens, but treatment with these antigens did not prove helpful. The patient is presented because of the peculiar histologic changes in the enlarged vulva, which was ulcerated.

DR. THEODORE CORNBLEET: I had the opportunity of studying biopsy material from this patient, and I think that the sections showed the structure of tuberculosis as typically as any that I have seen. I say this advisedly, since all dermatologists know that many other conditions may present the typical picture of tuberculosis. This brings up the question that has been discussed before as to the specificity of the Frei test.

DR. WILLIAM ALLEN PUSEY: What opinion was arrived at after Professor Jaffé's report? Did he convince the presenters or did they convince him?

DR. M. H. EBERT: I concur with Dr. Cornbleet in his statement that it is difficult to make a diagnosis on the basis of an intradermal test, particularly since persons with lymphogranuloma inguinale retain the typical reaction for years afterward. It is known, of course, that lymphogranuloma inguinale is not the sole cause of esthiomene. Syphilis and tuberculosis should be considered.

DR. A. W. STILLIANS: In the vulva the clinical findings were not those of tuberculosis. The ulcer was on a rather atrophic surface. The patient also has a marked rectal stricture.

Answering Dr. Pusey, neither of us convinced the other.

DR. S. J. ZAKON: The case was interesting for many reasons. The husband had typical adenitis of lymphogranuloma inguinale and the patient has a rectal stricture with multiple fistulas. The esthiomene failed to respond to any treatment. We performed vulvectomy, and the wound healed without complications. If this operation should prove successful, it may become the therapy of choice in such cases. The histologic picture in this case simulates that of tuberculosis so closely that no pathologist has made a diagnosis of lymphogranuloma inguinale from the section. However, Ruge (Climatic Bubo, 105 Cases in Hamburg, *Dermat. Wchnschr.* **90**:1, 1930), who studied sections from 105 cases concluded that the histologic picture is not pathognomonic and cannot always be differentiated from that of tuberculosis.

Up to the time when the Frei test was devised the gynecologists described this condition as lupus vulvae while the dermatologists called it esthiomene, ulcus vulvae chronicum elephantiasicum and anorectal syphilis, but it is more reasonable to assume that it is all part of one picture, i. e., late manifestations of lymphogranuloma inguinale. The section studied in this case is the first taken from the involved tissue, most of the sections examined having been from the adenitis. Also this is the first case of esthiomene in a Jewess who has lived in Chicago during all of her adult life. Many other things could be suggested. Gamma bodies (Findlay-Marshall: Experiments on the Transmission of the Virus of Climatic Bubo in Animals, *Tr. Roy. Soc., Trop. Med. & Hyg.* **27**:35, 1933), or cell inclusions, have been described and found within plasmocytes, and they may be mistaken for the Donovan bodies of granuloma inguinale.

NEW YORK ACADEMY OF MEDICINE, SECTION OF DERMATOLOGY AND SYPHILOLOGY

EUGENE F. TRAUB, M.D., *Secretary*

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MILIARY, PUSTULAR AND ERYTHEMATOUS, SQUAMOUS, NUMMULAR DERMO-ÉPIDERMITE IN PROGRESSING CENTRIFUGAL PLAQUES (GOUGEROT). Presented by DR. BOLESLAW LAPOWSKI.

This boy, aged 16, born and reared in Jersey City, N. J., stated at the time of admission to the hospital that he had an eruption that started when he was about 4 months old. His brother suffered from the same disease.

The eruption began, according to the history, with the appearance of vesicles or vesicopustules in groups on an erythematous surface and produced patches which increased in size by peripheral extension. Some of the lesions showed a tendency toward central healing by the formation of dried scales and scabs which gave the impression sometimes of a marginate eczema, seborrhea or psoriasis. In some instances when the healing process was far advanced, there was also a suggestion of lupus erythematosus.

Examination showed erythematous patches of various shapes and sizes with sharp borders on the ears, face, neck, axillae, upper and lower extremities, hands, wrists, feet, pubic region and genitals. Some of the patches were oozing, owing to broken pustules with borders of vesicles or pustules; others were partially or even completely dry and covered with scales or scabs. The tongue was involved, being covered with longitudinal pale lines and with pea-sized slightly raised, round, pale white spots, not surrounded by a red border. The submaxillary glands were slightly perceptible and painless. The other glands were not palpable. All the nails of the fingers were deformed or absent and had been shed a number of times. They were slate-colored and atrophied, with slight paronychia. The toenails also were involved. The patient had total alopecia. The testicles were developed and painless to the touch. The disease was generalized, leaving only here and there some clean areas. The palms, soles, genitals and lower extremities were especially involved. The urine was normal.

While some of the areas have temporarily improved, and while some of the smaller ones may have completely cleared, the patient has never been free from lesions. Relapses have occurred frequently, with lesions either on new sites or within the older patches and along their borders. The scalp, which originally showed complete alopecia, has a fine growth of hair, but there is a tendency for the hair to fall out.

The patient has been treated with various external applications with slight improvement. Two intramuscular injections of mild mercurous chloride (0.1 Gm. in a 1:10 suspension in oil) were given with a good temporary result. The lesions dried up, and the redness disappeared, leaving only a discolored surface. However, a relapse followed.

DISCUSSION

DR. BOLESLAW LAPOWSKI: This patient has been treated by numerous physicians in many institutions in New York and Jersey City by means of roentgen therapy, injections and local applications. He has been presented before various medical societies with different diagnoses of which no published record can be found in the transactions of the societies. He has been under my care since Jan. 13, 1933, and during that period two aspects of the disease have been observed simultaneously.

1. The primary lesion appears in the form of a disseminated miliary vesicle on an erythematous surface, changing during from two to five days into a pustule resembling a large infected vesicopustule of eczema, containing a drop of wheylike or milky pus. It bursts, leaving macerated, desquamative eyelets surrounded by a whitish raised collaret of epidermis.

2. The pustules increase in size, fuse and form slightly infiltrated, papular, flat plaques covered with scabs or scales, presenting an eczematiform parakeratotic or psoriatic aspect, without being identified completely with either disease. The plaques are circumscribed; some are surrounded by a dry red border, more infiltrated than the rest of the plaque, and are covered with follicular impetiginous lesions and with scabs and scales, on removal of which a bright red color, slightly moist, with open small abscesses is seen. Even in the plaques which look like those of psoriasis these pustular micro-abscesses are formed. This incessant pullulation of miliary pustules in all periods and in all forms is a characteristic symptom of the disease. The large plaque does not disappear. The plaques may fade away, taking on a dark color, but they are never free from lesions. There is no lichenification even where the skin folds are exaggerated.

Gougerot (*Arch. dermato-syph.* **3**:611 [Dec.] 1931) was the first to give a classic clinical description of the disease, collecting twenty-six cases; some of the patients had been under his observation for more than twenty years and had been presented at various French dermatologic societies without any diagnosis. In the case of the patient presented here all available methods of examination to discover an external cause for the condition, including examination for bacteria and fungi, have been used without arriving at a definite diagnosis. Sezany (*Bull. Soc. franç. de dermat. et syph.* **40**:92 [Jan.] 1933) presented a similar case under the title "Dermo-épidermite pustulo-miliaire."

No one has put this disease in the right place. Gougerot described two cases of épidermite. In 1922, a case was presented at a conference of French dermatologists (*Ann. de dermat. et syph.* **3**:434, 1922), and no diagnosis was made even by Darier, Sabouraud or Nicolas. In 1931, Gougerot collected about thirty-one cases published in the *Archives dermato-syphilographiques* (**3**:611 [Dec.] 1931) and presented these cases under a symptomatic diagnosis, namely, "miliary, pustular, erythematosquamous dermo-épidermite in progressive centrifugal plaques." Gougerot looked for fungi and streptococci and could not arrive at a definite conclusion as to the cause of the condition.

NOTE.—In the discussion of this case, it was brought out that Dr. Hopkins had studied a case and found Monilia in the feces and in the cutaneous lesions. The picture and age of Dr. Hopkins' patient (ARCH. DERMAT. & SYPH. **25**:599 [April] 1932) suggest that his patient and mine are the same. In my report the condition is described as more aggravated. In Gougerot's description there is no mention of examination of the feces for Monilia, and Dr. Hopkins' suggestion of moniliids may lead to the elucidation of a factor in the cause of the disease.

DISSEMINATED LUPUS ERYTHEMATOSUS WITH PERNIO. Presented by DR. ABRAHAM WALZER.

This boy, aged 8½ years, born in the United States, was presented before the section in May 1933 by Dr. Herman Goodman as having erythema multiforme haemorrhagicum bullosum (ARCH. DERMAT. & SYPH. **28**:894 [Dec.] 1933). He has been under observation in the Good Samaritan Dispensary for about five months.

He has lesions on the ears, cheeks, elbows, backs of the hands, buttocks and feet. The method of development is apparently as follows: The primary lesion is a red, soft, round, smooth, raised efflorescence the size of a millet seed on normal skin. Some of the lesions combine and form dark red plaques which are smooth and soft, and some form one-half or one-quarter ring shapes or combine into serpiginous patches. Some of the lesions become dark and show vesicular and hemorrhagic centers which dry and form adherent scales. Some of these nodules

combine and form elevated masses on the elbows and backs of the fingers. Eventually absorption occurs and leaves dark pigmentation at the sites of these lesions. The dark pigmentation eventually disappears and leaves a dark brown skin which seems to be wrinkled like atrophic skin. The patient has had marked dermographism.

DISCUSSION

DR. E. WILLIAM ABRAMOWITZ: This is an extremely interesting case. I have weighed various possibilities, erythema multiforme, lupus erythematosus, granuloma annulare and sarcoid, but I cannot correlate the lesions with any of these conditions. I wish to suggest another possible diagnosis, epidermolysis bullosa. This would account for the hemorrhagic bullous lesions encountered at the onset, the present vesicular eruption (cysts?) on the ears and the perplexing infiltrating patches on the body. The mixed types of epidermolysis bullosa (bullous and trophic types) are at certain stages difficult to diagnose until after continued observation.

DR. ISIDORE ROSEN: I recall seeing this patient when Dr. Goodman presented her at a previous meeting. The picture has changed a good deal, and it is difficult to establish a diagnosis at the present time without histologic study. I have seen a few instances of lupus erythematosus which began with lesions typical of erythema multiforme. Some of the members will recall the case of Mrs. Cole of the Vanderbilt Clinic some ten years ago. She presented a typical example of bullous erythema multiforme with recurrent attacks for about two years, which ultimately developed into classic lupus erythematosus of the disseminated variety.

DR. HERMAN GOODMAN: This child was under my care, at the New York Skin and Cancer Hospital, and I presented her before the section with the diagnosis of "erythema multiforme haemorrhagicum bullosum," as mentioned by Dr. Walzer. The patient then exhibited vesicles, erythema and bullae with clear or with sanguineous fluids. The lesions were at the borders of the ears and on the cheeks, hands, arms, elbows, knees and buttocks, the distribution being not much unlike that now evidenced.

The lesions when first seen were not easy to evaluate. There seemed to me a hard element, but the rupture of vesicles and bullae showed the presence of fluid. Histologic examination of pieces of skin removed from time to time showed vesicle formation, collections of polymorphonuclears, hemorrhage and widening of the blood vessels, so the suggestion of erythema multiforme haemorrhagicum bullosum was strengthened by the histologic diagnosis.

There was no suggestion at any time when the child was under my observation of the apparently solid lesions which she now shows on the backs of the hands, for example. This is a new feature. The flat areas of redness and apparent atrophy on the cheeks and buttocks are likewise new, but there was redness at those sites when I saw the child eight months ago. No clinical or histologic feature during my study of the case gave any inkling that lupus erythematosus could be entertained as a diagnosis. At the meeting of the section the members either accepted the diagnosis as presented or conceded that the case was an unusual one requiring hours of study before a suggestion as to diagnosis could be offered.

DR. CHARLES WOLF: One of the characteristic features is that the lesions are papular and vesicular with a tendency to nodular grouping. There are no lesions that can be considered those of disseminated lupus erythematosus. My impression is that the condition may be generalized erythema multiforme. The infiltrations that are apparent this evening may be explained on the ground of repeated insults due to some internal cause.

DR. MARION B. SULZBERGER: Are the lesions on the hands infiltrated or edematous or both? Do they ever recede to the level of the normal skin? Is there any atrophy? It seems to me that there is distinct atrophy on the cheek. Of course, one must always remember that the lesions as they are seen at meetings

are not always of normal appearance. They may be greatly altered by previous manipulation, palpation or other influences. It is for this reason that I ask these questions.

DR. ABRAHAM WALZER: As presented tonight, the patient does not show the typical lesions. When he was first seen a number of months ago and many times since, he demonstrated lesions which varied from hemorrhagic vesicles and crusts to papules with central atrophy. He, however, has also marked dermographism, and on trauma and exposure to cold the papular lesions become greatly elevated, giving the impression of granuloma annulare, as is evident tonight. At the onset there are vesicles, hemorrhagic vesicles and papules, which eventually disappear, with the formation of pigmentation and atrophy in the typical locations of pernio. The course of the disease speaks against erythema multiforme bullosum. The question of epidermolysis bullosa was raised. Again the course, duration, type of lesions and absence of trauma as a causative factor all speak against this diagnosis.

DR. BOLESLAW LAPOWSKI: There was a distinct lesion of lupus erythematosus on each cheek, leaving a scar. On the buttocks and on the elbows there are nodules, hard lumps, which are not seen in erythema multiforme bullosum. It is difficult to make a diagnosis in such a case. I think that the condition is lupus erythematosus disseminatus with pernio.

MULTIPLE KELOIDS. Presented by DR. ABRAHAM WALZER.

This girl, aged 12, has had an eruption on her chest and back for about two and one-half years. The condition began with a few "pimples" on her chest. About a year ago one of these was removed for microscopic study at a local institution. Following the removal, the lesion recurred not only at the original site but on other portions of the chest and back.

On the chest and the upper part of the back are many scattered lesions varying in size from that of a small pea to that of a dime. They occur both in groups and discretely. The lesions are cutaneous and subcutaneous nodules and are sharply outlined and hard. Some of them have a yellowish tinge.

DISCUSSION

DR. HERMAN SHARLIT: It seems to me that of all the infiltrated lesions that one sees the ones least likely to be perfectly circular are keloids. The lesions on the back of this child are perfect circles. Surely even the most credulous person would insist on a study of biopsy tissue for a substantiation of the offered diagnosis.

DR. WALTER J. HIGHMAN: What Dr. Sharlit says is substantially true. Dr. Peck had occasion to examine a specimen from a lesion histologically and found it to be keloid.

DR. SAMUEL PECK: Histologic examination of a section showed a typical keloid. In my experience it is difficult to differentiate a young keloid from a neurofibroma.

DR. FRED WISE: Is there any question of xanthoma, histologically or clinically or from both aspects, from the presenter's standpoint? It is possible for keloid to develop on xanthoma lesions.

DR. ABRAHAM WALZER: A question of xanthoma was raised. The absence of the peculiar color of the lesions which is almost pathognomonic for this condition, and the unusual formation of these lesions (linear formation) are against xanthoma. Moreover, the histologic picture is that of keloid, not xanthoma.

DR. ISIDORE ROSEN: I do not think that this case should go on record as one of keloid. The clinical features suggest a marked metabolic disturbance. In examining the upper extremities, I found the skin tense and hard, suggestive of

scleroderma. I think that a study of the glands of internal secretion should be made as well as determinations of the basal metabolism, blood chemistry, etc.

DR. T. J. RIORDAN: I suggest that a special study for mast cells be made in this case.

DR. WALTER J. HIGHMAN: The one fact that is known is the one that Dr. Peck's examination supplied. I did not notice the condition of the arm mentioned by Dr. Rosen. The moment before any cutaneous syndrome is isolated as deserving a designation, no one knows it is something *sui generis*. This patient obviously has lumps on the skin due to hypertrophy of the connective tissue. One should be content until their identity is established to call these lesions at least first cousins of keloid or fibroma. As to a precipitating factor for keloid, that is necessary for any lesion. Unless there were a certain local peculiarity in the tissue, no lesion would form there.

DR. SAMUEL PECK: Neurofibromas may have the clinical appearance of some of the nodules presented by this patient. However, it is not necessary to have a different stain in order to recognize the peculiar concentric formation which neurofibromas often have. Therefore, while special stains were not used in this case, I do not believe that such a diagnosis can be considered.

PSORIASIS OF THE NAILS. Presented by DR. GEORGE C. ANDREWS.

This girl, aged 12, born in the United States, at 2 years of age had psoriasis of one finger-nail. Shortly thereafter a second nail became affected. During the past two or three years other nails have become involved. The skin around the nails was smooth, and the finger-tips were "clubby." During the past year inflammation has occurred around the nails. In the past winter on the volar surfaces of several fingers there were "white spots" from which pus exuded. The patient has been treated by many local physicians, receiving roentgen therapy and having one nail removed.

The patient had rheumatism at the age of 10 years.

The fingers and thumb of the left hand and all of the fingers of the right hand but not the thumb are involved. The nails are thickened and have irregular, rough surfaces, and different portions, especially the distal ones, show a chalk-like appearance of the nail substance. The skin around most of the nails is slightly puffy, well defined and erythematous, and a scaly eruption is present with long superficial fissures extending on the dorsal surface down to the first or second interphalangeal joint. There are no vesicles or pustules. The second, fourth and fifth nails of the right foot show thickening, yellow discoloration and chalkiness. There are large circumscribed patches on the scalp covered with thick chalky scales.

Examination for tinea and cultures of the nails of the hands and feet gave negative results. Cultures of the tongue and stool for Monilia also gave negative results.

DISCUSSION

DR. LOUIS TULIPAN: I believe that the patient has psoriasis. The adherent, scaly patches on the scalp are limited mostly to the pate; the dystrophy of the nails and the dry, scaly eruption on all the finger-tips fit into the picture of psoriasis.

A CASE FOR DIAGNOSIS (PEMPHIGUS?). Presented by DR. HERMAN FEIT.

This man, aged 55, born in the United States, has had repeated attacks of gout in the left big toe. He had asthma twenty years ago, lasting two years. He has been a photographer and has handled copper sulphate, silver nitrate, iron salts, potassium cyanide, potassium ferrocyanide, iodine, potassium iodide, sodium thiosulphate, sodium sulphite, hydroquinine, ammonium chromate, and lead nitrate during the past twenty-five years. Before that time, about forty years ago, he

handled corrosive mercuric chloride. He now handles it only once in a while. There is no history of intake of phenolphthalein.

The eruption started three months ago on the bottom of the left foot, with a large bulla, followed by other blisters. Psoriasis broke out again on the left elbow. He has had psoriasis for the past twenty-five years. The physician whom he consulted gave him a bottle of medicine which, in the patient's opinion, contained iron, for the spoon tarnished when he used the preparation. He was inoculated with 20 cc. of a preparation the name of which he could not state on two occasions. Another physician gave him twelve intravenous injections of sodium thiosulphate. A section of the skin was removed, which is supposed to have shown pemphigus.

When I first saw the patient he was depressed, toxic and restless and had suicidal ideas. He had mild fever. The entire skin and the mucous membranes of the roof of the mouth either were covered with fully developed bullae, flaccid or tense, or showed denuded areas, but no lesions were present except those of psoriasis. The lesions arose from normal or slightly inflamed skin and itched a great deal. A mild fever was continually present. The patient had lost about 30 pounds (13.5 Kg.) in weight in three months.

The urine was essentially normal. The blood count showed a normal number of red cells but marked leukocytosis and eosinophilia. A smear of the fluid from a blister showed no cells. Staphylococcus aureus, Staphylococcus albus and one colony of Staphylococcus citreus were found. The blood sugar was reported to be 95 mg. per hundred cubic centimeters, chloride, 5.8 mg., and calcium, 10.8 mg. The phytotoxic test of the serum was negative.

Therapy has consisted mainly in an antitoxic regimen, i. e., forced intake of fluids, enemas, diaphoresis, a diet rich in protein, administration of whisky, cornstarch baths, the application of ointment of zinc oxide and the administration of arsenic in the form of pills, which was discontinued. The patient also received acriflavine hydrochloride in alcohol and autoserotherapy.

DISCUSSION

DR. HERMAN FEIT: I brought this patient here tonight because the following diagnoses have been made: pemphigus, Duhring's disease, erythema multiforme bullosum, lichen planus bullosus and a drug eruption.

The patient is a photographer who has handled numerous chemicals during the past forty years. When first seen in consultation he was very sick both physically and mentally, had had a high temperature for about three months and had lost about 30 pounds in weight. The fact that he suffers from severe itching is no reason to exclude the diagnosis of pemphigus. He has had psoriasis for twenty-five years, which makes the clinical picture even more confusing. Bullae appear and disappear on healthy and inflamed skin.

I showed the patient to Dr. Wise, who favored a diagnosis of pemphigus. The eosinophilia which is present is found in Duhring's disease and many other dermatoses. The phytotoxic test of Pels and Macht was negative. The value of this test is disputed.

A CASE FOR DIAGNOSIS (HODGKIN'S DISEASE?). Presented by DR. JOSEPH L. MORSE.

This man, aged 68, states that his condition began nine months ago with "two lumps" on the nose and that several smaller spots appeared on the cheeks soon afterward. The lesions on the nose grew in size, but the entire condition has remained the same for the last six months and no new lesions have appeared. There is no itching. The patient feels well generally and has lost no weight.

He presents a large nodular lesion on the bridge of the nose and a smaller one on the tip, both of which are violaceous and indurated and give the nose an appearance of rhinophyma. The lesion on the tip of the nose is much smaller since

a biopsy specimen was taken. On the side of the upper area of each cheek are several smaller, brownish, bluish, macular and maculopapular lesions, slightly indurated. There are a few small, barely palpable glands in the axillae and groins.

A blood count showed 78 per cent hemoglobin, 4,640,000 red cells, 7,200 white cells, 65 per cent polymorphonuclears, 2 nonsegmented, 28 per cent lymphocytes, 5 per cent mononuclears and 2 per cent eosinophils. One myelocyte and 2 metamyelocytes were noted. The Wassermann reaction of the blood has not been reported.

A biopsy was made. A section of the skin showed a chronic process in the corium and subcutaneous tissue. A simple inflammatory lesion seemed to be excluded. The possibility of the condition being Hodgkin's disease is slight, but it cannot be entirely excluded.

DISCUSSION

DR. MAX SCHEER: I cannot make a definite diagnosis. On the right cheek and on the temples there are two or three lesions, slightly atrophied, suggesting the possibility of lupus erythematosus. It is possible that the lesion on the nose may be a hypertrophic form of the disease, although that is rarely found in this location. It might be advisable to make another biopsy.

DR. WALTER J. HIGHMAN: When I saw the patient's nose and the rest of the face, the first impression that the lesion on the nose made was that it was the leonine type of leukemia cutis, of which there is a famous example in the museum in the Allgemeines Krankenhaus in Vienna. The histologic report as described in the presenter's history is a little misleading. The slide is highly suggestive of, if not positive proof of, lymphogranuloma of some sort. There are so many eosinophils in the section that, although the Dorothy Reed cells are lacking, a diagnosis of Hodgkin's disease may be considered. I think that one can safely classify the condition as lymphogranuloma, probably as Hodgkin's disease.

DR. PAUL GROSS: My tentative diagnosis is leukemia of the skin. I feel that sarcoid and lupus pernio can be excluded. The histologic section shows a massive infiltration, in particular of lymphocytes, but the excessive number of eosinophils is somewhat difficult to interpret. These observations led Dr. Jaffe to suggest the possibility of Hodgkin's disease despite the absence of Dorothy Reed cells.

LUPUS PERNIO (BESNIER). Presented by DR. ABRAHAM WALZER.

This boy, aged 11 years, has been under observation at the Good Samaritan Dispensary for only a short time. His mother is being treated in an institution for tuberculosis. There are ten children in the family, of whom the patient is the seventh. Two of the children died in infancy of causes unknown, and the others have apparently been well. The patient states that aside from his present illness he has never been sick and has not had the ordinary children's diseases.

The present condition developed first on the left cheek eight or nine months ago and has been treated in a number of local institutions with external applications only.

The upper three quarters of both ears are now dark red, swollen, indurated and covered with thin adherent scales. The tip of the nose is similarly involved. There is one serpiginous, almost complete ring extending across the lower eyelid, the left side of the nose and the adjacent portion of the left cheek. It is composed of many red, scaly papules varying in size from that of a millet seed to that of a pea, which show no central necrosis or atrophy. The central part of this irregularly shaped ring shows no lesions or atrophy. On the upper part of the nose are two groups of similar papules. On the right cheek is a pea-sized patch composed of papules and covered with a thin adherent scale. The hands and feet are cold and become cyanotic on exposure to cold.

DISCUSSION

DR. MARION B. SULZBERGER: I believe that the condition is in all probability lupus erythematosus. As far as I know "lupus pernio (Besnier)" is an old (obsolete) name for what is probably a peculiar form of lupus erythematosus. At any rate lupus pernio (Besnier) is not what is now called "lupus pernio" but an entirely different disease. The condition now generally designated as lupus pernio is that first described under this name by Tenneson. It seems to me that the continued use of names either obsolete or at any rate almost universally discarded can only lead to confusion.

DR. WALTER J. HIGHMAN: I think that the condition is lupus vulgaris. There are lupus nodules on the cheeks. It is a commonplace in dermatologic literature that lesions of lupus pernio, though tuberculous, simulate lupus erythematosus. In the classic case described by Kyrle some twenty-five years ago, there were lesions clinically those of lupus erythematosus on both cheeks, but histologic examination showed lupus erythematosus on one side of the face and lupus vulgaris on the other side. Moreover, Leloir's type of lupus is tuberculosis though it lacks the characteristics of lupus erythematosus. Thus, in a variety of types, tuberculosis resembles lupus erythematosus.

DR. EDWARD R. MALONEY: I agree with what Dr. Highman has just said and consider the condition the Leloir type of lupus vulgaris.

DR. FRED WISE: I think that the diagnosis of lupus pernio can be made only on the basis of histologic examination and not on clinical grounds alone.

DR. ABRAHAM WALZER: The whole question of the relationship of ordinary chilblain, or pernio, Hutchinson's chilblain, lupus, Besnier's lupus pernio, lupus vulgaris, lupus vulgaris erythematoides and lupus erythematosus is more or less confusing. This case is shown as one of lupus pernio (Besnier). Besnier described this type of lupus in 1888. He believed that it was lupus erythematosus, a flat, superficial type of the disease on a pernio base. Tenneson a few years later, however, restudied these cases and proved them to be instances of lupus vulgaris. Besnier's lupus pernio, therefore, is lupus vulgaris on a pernio base. This patient shows the papular lesions of lupus vulgaris in conjunction with lesions that clinically may simulate somewhat lupus erythematosus but are all on a pernio base. Lupus erythematoides is lupus vulgaris which clinically simulates lupus erythematosus but has nothing to do with pernio. This patient, therefore, has lupus vulgaris on a pernio base and, therefore, Besnier's lupus pernio. In addition, he presents pernio of the hands and feet.

ACNE VARIOLIFORMIS TREATED WITH INTRADERMAL INJECTIONS OF BACTERIOPHAGE. Presented by DR. HERMANN FEIT.

This woman, aged 29, who was born in Russia but has lived for twenty-three years in the United States, has always enjoyed good health and has two healthy children. When she was first seen two years ago she stated that she had always had an itchy scalp, with dandruff, and had noticed little crusts after scratching. These crusts disappeared after the application of any kind of grease. The nose, eyebrows and different parts of the face showed papulopustular lesions on an erythematous base.

She received about twenty intradermal injections, into the lesions, of bacterial antigens prepared from Staphylococcus aureus (specifically autolyzed staphylococcus bacteriophage) and had a slight recurrence of the eruption in the summer of 1932. The lesions disappeared in a week after the application of ammoniated mercury. She has occasionally had ordinary acne. There are now only depressed scars visible where the lesions were previously located.

DERMATITIS FROM CINNAMON; DERMATOMYCOSIS? Presented by DR. FRANK VERO.

This man, aged 43, an Italian, a pastry cook, has been intermittently treated during the past three years for a recurrent eruption of the hands. The palms are reddened, infiltrated, thickened, scaly and fissured, the lesions extending to the fingers. On the dorsa of the hands there are numerous irregularly outlined, erythematous, scaly, dry patches. Several nails are discolored and show ridging and edema of the posterior walls. Recently maceration and superficial erosions have been visible in the interdigital spaces. Various local remedies, such as salves and pastes, have been employed, as well as injections of trichophytin and roentgen irradiation, which gave only temporary relief and were followed by a recurrence after he had returned to work.

Microscopic examination for fungi revealed none. The trichophyton test was slightly positive. The patch test was strongly positive to cinnamon and negative to the other ingredients used in his work.

Since the patient has avoided the use of cinnamon in his work, the lesions on the hands are clearing.

LICHEN PLANUS OF THE MOUTH ONLY. Presented by DR. ABRAHAM WALZER.

This man, aged 40, has been under observation at the Good Samaritan Dispensary for only a short time. He has two children and gives no history of venereal disease. He claims that he had a rash about eight years ago which lasted about two weeks. He did not know that he had lesions in the mouth until six or seven months ago; at that time he was under treatment at a clinic for a dental condition, and his attention was called to the eruption. He has had no pain or other abnormal sensations in his mouth. He formerly smoked about twenty cigarets a day, but during the last few months he has smoked only two or three a day.

On the inner aspect of each cheek, especially on the right side and at the position opposite the junction of the upper and lower teeth, there are linear areas of whitish lines. The front part of this linear formation is in a patch formation, but composed of whitish points; the posterior part is in a lacy formation, but each tiny line is also composed of white points. On the right line, in the anterior part, is a flat, white, hard, scalelike lesion attached to the underlying structure. There are no other lesions on the skin or genitals.

PARAPSORIASIS VARIOLIFORMIS ACUTA. Presented by DR. HERMAN GOODMAN and DR. ELSA A. BARTHEL.

This man, aged 23, reported to the clinic on July 13, 1933, because of an eruption which had been present for one week. There were no subjective symptoms. The eruptive elements consisted of macules, which were small, discrete and red. Slight scaliness was present. There were a few papules which gave the appearance of vesicles, but no fluid appeared on rupture. Some of the lesions had had their tops rubbed off. The mucous membranes were clear. There was no adenopathy. The Wassermann reaction was negative.

Histologic examination showed a narrow and wavy epidermis. There were collections of fluid between the cells. Vesicles appeared under the corneum; the corneum was edematous and showed collections of fluid. The capillaries were widened, and cell infiltrations were present. The basal cell layer was very irregular. The hair follicles and other structures of the corium were normal.

The patient was seen again on December 26. There was some change in the clinical appearance of the eruption. The eruptive elements were about the same. No actual vesicles were seen. Macules and papules were present as previously but with some evidence of staining. The scaling was slightly more marked but in places could actually be removed. A keloid was removed for study. A papular lesion was also removed. Under the microscope, the sections showed even more

fluid formation than had the earlier one, and the accumulation of fluid was greater. There was the same vesicle formation in the epidermis and in the corium as in the earlier section, but it was more marked in extent and in intensity.

No treatment has been given.

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by DR. FRANK VERO.

S. W., a woman, aged 43, a Russian, was first seen four weeks ago, at which time she complained of pain, burning and itching of the lower parts of the legs.

She states that three years ago she noticed redness and swelling below both knees which a year ago spread to the ankles and feet. There is no history of a previous skin disease. She has had four normal pregnancies and two miscarriages. Menstruation ceased three years ago. She has had hypertension for several years.

The skin around the knees and on the lower parts of the legs is yellow-white and slightly atrophic and presents fine soft scales. The skin can be easily folded, and on the left leg a network of veins is visible. The skin of the ankles and the dorsa of the feet is hard, sclerodermatic, thickened, infiltrated and violaceous red and cannot be folded between the fingers. The motion of the ankles is normal.

Repeated blood tests have given the following results: On two occasions the Wassermann reaction was 1 plus and 2 plus, respectively, with alcohol and cholesterol antigen, and on two occasions it was anticomplementary. The Kahn reaction was twice 2 plus, once 4 plus and once 1 plus. The Wassermann reaction as determined by the board of health was negative.

Therapy has consisted of the oral administration of pancreatic extract, 5 grains (0.3 Gm.) three times a day, and bland salves locally. The condition has improved somewhat. The scleroderma-like skin of the feet has become considerably softer, and the subjective sensations have practically ceased.

MULTIPLE IDIOPATHIC HEMORRHAGIC SARCOMA (KAPOSI) WITH LESIONS IN THE MOUTH. Presented by DR. PAUL GROSS.

This man, aged 58, born in Russia, a Jew, states that three or four months ago he first noticed a small bluish-purple area about 1 cm. in diameter over the middle of the right tibia. It was painless, nonitchy and nontender. There were no systemic effects. The area gradually spread to its present size. Recently the ankle became swollen. In addition, the patient has noted a few small similar spots on other areas of the body.

The patient is fairly well developed and nourished but appears chronically ill. On the middle three fifths of the right leg there is a confluent, nodular, scaly, purplish lesion. On pressure the purple color does not fade, and there is brownish edema. Over the upper parts of the thighs, the left knee and the anterior portion of the chest are scattered nodules. Most of these nodules are discrete, purplish, from 1 to 2 cm. in diameter, annular and slightly raised. They are symptomless. On the hard palate and the right lower lip are purpuric spots about 0.5 cm. in diameter.

Biopsy on a specimen taken from a purplish nodule on the right leg showed the epidermis to be hyperkeratotic, acanthotic and edematous. The corium showed marked changes. The collagen bundles were fragmented and showed some evidence of basophilic degeneration. The vessels were increased in number and frequently formed dilated irregular sinuses with thin walls and swollen endothelium. The other vessels were thickened and showed concentric proliferation of cells with obliteration of the lumen. About the angiomatous foci there was a massive proliferation of spindle cells. Scattered, often increased in number about the blood vessels, apparently free in the tissues and also contained in the cells were oval granules of varying size. These were semitranslucent and muddy brown (hemosiderin?). Large bundles of spindle-shaped cells were seen which resembled portions of smooth muscle (G. Machacek).

LOS ANGELES DERMATOLOGICAL SOCIETY

NELSON PAUL ANDERSON, M.D., *Secretary*

Regular Monthly Meeting, Jan. 9, 1934

STANLEY O. CHAMBERS, M.D., *in the Chair*

ROENTGEN TELANGIECTASIA TREATED WITH CARBON DIOXIDE SNOW. Presented by DR. H. S. CAMBELL.

This patient was presented before the society about two and a half years ago, after having been treated with light applications of carbon dioxide snow for fairly diffuse telangiectasia of the chest following an overdose of roentgen rays. I thought that it would be worth while to present the patient again after this lapse of time.

DISCUSSION

DR. STANLEY O. CHAMBERS: The result is excellent.

DR. KENDALL FROST: All dermatologists know the danger of this type of treatment. In any case in which fibrosis is present I believe that it is contraindicated.

DR. SAMUEL AYRES JR.: I also think that the result is excellent, but I call attention to the danger of freezing irradiated areas.

FORDYCE'S DISEASE WITH CHEILITIS GLANDULARIS. Presented by DR. I. R. BRANCROFT.

This patient, a physician, has Fordyce's disease of the mucous membranes, and in addition to this he presents hypertrophied mucous glands in the lower lip from which there exudes thick, mucilaginous material. He complains that his lips burn and stick together. He is apprehensive over the condition.

DISCUSSION

DR. L. F. X. WILHELM: I think that the condition is simple cheilitis.

DR. SAMUEL AYRES JR.: I do not feel that there are enough findings to justify a diagnosis of Fordyce's disease as far as the lips are concerned, but there is unquestionably inflammation. I have seen several patients with similar conditions, and I think that they are extremely difficult to treat. I recently had a man who complained of burning of the lips, although no pathologic condition was visible. I tested him with a micro-ammeter and found 75 micro-amperes of current between a gold and an amalgam filling in his mouth. He had all his amalgam fillings removed, but he still has the burning of the lips. I do not know whether or not the possibility of irritation from tooth paste has been gone into in the case of the patient presented tonight.

DR. E. D. LOVEJOY: This patient has only four teeth, all front lower teeth. The rest of them have been removed at various times without helping the condition. He has marked hypertrophy of the mucous glands, slight stimulation of which produces this excessive secretion. He also has pains in the legs which disappear and recur. There seems to be a general condition underlying the manifestations, as the condition of the mouth hardly seems to account for the afternoon rise of temperature which occurs. He is also extremely neurotic.

DR. STANLEY O. CHAMBERS: I think that the patient has both Fordyce's disease and definite cheilitis glandularis apostematosa. As Dr. Frost said, he also presents seborrheic cheilitis. The only treatment that I know of is electrolysis of the orifices in an attempt to destroy the secreting gland.

DR. MOSES SCHOLTZ: I saw this man a few months ago. At that time he thought that he was suffering from leukoplakia, but I found no evidence of this. So far as glandular cheilitis is concerned, I do not think that enough clinical evidence is present to support such a diagnosis.

SEBACEOUS ADENOMA OR BENIGN CYSTIC EPITHELIOMA. Presented by DR. MOSES SCHOLTZ.

H. B., a youth 17 years old, presents multiple lesions on the face which have existed since birth. The lesions vary in size from that of a pinpoint to that of a pinhead. They are discrete, papular, conical, soft and yellowish red. They involve the cheeks and the nose. The patient's mother claims that the lesions are gradually clearing. Biopsy on one of the lesions on the cheeks was reported by pathologists as showing endothelioma. The patient has an apparently similar lesion on the left eyeball. The ocular lesion was removed and reported by a pathologist to be malignant. It recurred after excision.

DISCUSSION

DR. NELSON PAUL ANDERSON: Regarding the microscopic examination which Dr. Scholtz disregards in his clinical diagnosis, I have seen the slides, as have also Dr. Evans and Dr. Pratt. We are almost agreed that the diagnosis lies between Hodgkin's disease and lymphosarcoma. Nucleated giant cells are present in the sections along with a marked cellular infiltrate of lymphocytic character. The sections from the ocular and the cutaneous lesion are of the same character. The patient presents marked cervical and axillary adenopathy, and I regard the ultimate prognosis as poor, in spite of the clinically benign appearance of the lesions.

DR. MOSES SCHOLTZ: So far as the clinical appearance of the lesions is concerned, I do not think that one would pronounce them malignant. I cannot pass on the lesion on the eyeball. I do not think that it is of the same nature as the lesions on the skin.

SCIRRHOUS CARCINOMA OF THE BREAST. Presented by DR. MOSES SCHOLTZ.

Mrs. E. S., aged 78, consulted me three months ago because of a tumor of the breast of two years' duration. The lower half of the breast, including the nipple, which was retracted, presented an adherent, purplish, hard tumor with a coin-sized sluggish ulcer in the center. The right axillary gland was palpable and about the size of an almond. The patient refused radical surgical intervention, so the Percy heat cautery was employed under local anesthesia, and 4 skin units of filtered x-rays with a 3 mm. aluminum filter was given to the axilla. The patient is shown to illustrate the possibilities of dermatologic therapy in selected cases of cancer of the breast.

DISCUSSION

DR. H. S. CAMPBELL: Locally there is a rather good result, but generally I think the condition can be classed as "unfinished business."

DR. SAMUEL AYERS JR.: My impression was that there is still some activity present.

DR. STANLEY O. CHAMBERS: That was also my impression.

DR. MOSES SCHOLTZ: I know that there is a theoretical principle that any tumor of the breast should be removed surgically, but when a patient 78 years old who has just recovered from pneumonia, refuses to undergo a radical operation, one has to do something for her. She has a slow-growing malignant growth. If she has any visceral involvement, no operation would alter it. If she has not and she refuses a radical operation, something should be done for her. She has a slightly enlarged gland in the axilla, but I cannot tell whether the enlargement is metastatic or merely inflammatory. In a case of this type,

the cancer may last as long as the patient lives, and it was just as well to treat her with the Percy cautery and with the roentgen rays as I did. Surgical intervention does not guarantee cure.

ACNE VARIOLIFORMIS. Presented by DR. MOSES SCHOLTZ.

C. M., a white woman aged 25, complains of acne-like lesions on the face which have been present for six years. They first occurred following an abdominal operation. Treatment of all types has been without beneficial effect. The Wassermann test was negative. She presents on both cheeks discrete, follicular, sluggish pustules with necrotic centers. There are also some pitted scars.

DISCUSSION

DR. GEORGE KOETTER: I think that the patient has acne vulgaris with an artificial element rather than acne varioliformis. The lesions look too round and punched out for the latter condition. She admitted that she picked the center of each lesion.

DR. SAMUEL AYRES JR.: I agree with Dr. Koetter. The patient said that the lesions contained "a little seed" and that they would not disappear until she got it out.

DR. C. R. HALLORAN: I saw no pustular lesions.

DR. STANLEY O. CHAMBERS: I am inclined to believe with Dr. Scholtz the condition is acnitis. The primary lesion is a deep-seated papule, and one can trace pathologic progress to a true necrotic papule. The necrosis is too deep and clean for an excoriation.

DR. MOSES SCHOLTZ: It seems to me that the diagnosis of acne is ruled out by the fact that the woman is beyond the acne age. She has no comedones and does not have a seborrheic type of skin. While one often sees acne with a necrotic element superimposed, I have seen many of these lesions in the early stage and they all show necrotic centers. The lesions are disfiguring. There are no personal reasons for a factitious element. I believe that the condition is acnitis or acne varioliformis.

MANHATTAN DERMATOLOGIC SOCIETY

MIHRAN B. PAROUNAGIAN, M.D., *Secretary*

Jan. 9, 1934

LOUIS B. MOUNT, M.D., *Chairman*

PHAGEDENIC ULCER OF UNKNOWN ORIGIN. Presented by DR. DAVID L. SATENSTEIN for DR. W. SACHS.

This girl, aged 12, was presented before this society in October 1931. At that time there were two large ulcerated areas extending down to the muscle; one covered the entire flexor surface of the left arm, and the second extended from the left margin of the sternum almost into the axilla. The edges were undermined, and the base showed some granulation tissue and considerable purulent discharge.

Since then the patient's general condition has remained good. She is up and about the ward, apparently healthy and moderately happy. Roentgenograms taken on Nov. 28, 1932, and March 3, 1933, showed extensive osteomyelitis of the left humerus, which had been operated on. Previous roentgenograms had revealed nothing abnormal. There was complete destruction of the left shoulder joint

with thickening of the adjacent ribs. There were many small discharging sinuses about the left shoulder joint and humerus and one or two apparently from the ribs. The lesion was spreading at the edges, somewhat undermined, raised and fairly distinct, and the central portion had undergone epidermidalization. Beyond the edges, especially about the right shoulder and axilla, were many small pustules. Cultures from the cutaneous edges, sinuses and small pustules showed Staphylococcus aureus. The urine and sputum have remained normal. A blood count showed 4,000,000 red cells, and of the white cells 50 per cent were polymorphonuclears, 40 per cent lymphocytes and from 5 to 7 per cent eosinophils.

Locally various remedies have been repeatedly employed. The application of aluminum acetate, irrigations with hydrogen dioxide, treatment with bacteriophage, dressings with 10 per cent saline solution, the application of lactic acid, etc., had been of no avail.

Four blood transfusions have been given.

DISCUSSION

DR. MAX SCHEER: I think that this patient should have antisyphilitic treatment to exclude the possibility of syphilis.

DR. LUDWIG OULMANN: I saw a patient with a similar condition who had fistulas and rolling up of the epidermis denuding the arm from the axilla to the wrist. This patient went to Switzerland and was cured after two and a half years' treatment with sunlight and roborant preparations. The patient was tuberculous.

DR. GEORGE M. MACKEE: I agree with Dr. Scheer that syphilis must be definitely ruled out in this case by an adequate therapeutic test with the arsenicals, bismuth and potassium iodide. I should be unwilling to rely absolutely on the laboratory reports in this case. Clinically the condition looks like severe scrofuloderma, and I should treat it as such, using roentgen irradiation locally, ultraviolet irradiation locally and generally, a sodium chloride-free, high vitamin diet, etc.

DR. WILBERT SACHS: This patient has been treated both with sunlight and with actinic radiation. As regards syphilis, the history and laboratory investigations have revealed no evidence of this condition.

LEUKODERMA PSORIATICUM. Presented by DR. ISADORE ROSEN.

CASE 1.—R. R., a girl aged 5½ years, presented herself at the Mount Sinai Clinic with the history that the present eruption appeared in the latter part of August 1933 following a summer's vacation at the seashore. Up to that time, the mother stated, there were no skin lesions on the child's body.

The patient is a well nourished girl with disseminated, small, scaly lesions typical of psoriasis. They are most marked on the chest, back and upper and lower extremities, and there is an occasional one on the face. Many of the involved areas show depigmentation. In some of these lesions there is still evidence of the micaceous scaling which accompanies psoriasis. The leukodermic areas are most marked on the upper part of the chest, back and upper extremities, where exposure to the sun was greatest, but there are similar areas on parts of the body not exposed to the sun's rays. The mother distinctly stated that this condition did not appear until after the child returned from her stay at the seaside.

CASE 2.—S. G., a girl aged 16, gives a similar history of the development of her cutaneous condition after September 1933, following a summer at the seashore. She presents leukodermic areas on the trunk and upper extremities, with a few lesions on the lower extremities.

DISCUSSION

DR. MIHRAN B. PAROUNAGIAN: These cases are interesting. The question is whether or not the patients were treated before they came to Dr. Rosen.

DR. GEORGE M. MACKEE: I cannot agree with Dr. Rosen. I think that the white macules which these patients present are due to the fact that the thickened

horny layer prevented the skin from tanning in the areas occupied by the lesions. Elsewhere, of course, the skin became markedly tanned. Moreover, even if tanning occurred in the lesion it was removed by exfoliation. The same condition is seen in many of the scaly dermatoses, particularly chromophytosis, in patients who are exposed to the sun. I do not think that the white areas represent leukoderma. They are areas of normal skin whereas the surrounding areas are tanned.

DR. FRED WISE: The general appearance is what Dr. MacKee implied. The achromic areas are present only in the tanned skin, in one of the patients at least.

DR. MAX SCHEER: In chromophytosis, it is possible that the toxins of the fungus, activated by light, destroy the pigment.

LUPUS ERYTHEMATOSUS. Presented by DR. GEORGE C. ANDREWS.

Miss H. C., previously presented at the November 1933 meeting of the society by Dr. Parounagian, had been treated by me for lupus erythematosus since April 1928. There were typical erythematous and atrophic lesions of the discoid type on the face and scalp and a warty patch on the right ala nasi. A Wassermann and a Kahn test on Oct. 14, 1930, were both negative. She had had twenty-two injections of gold sodium thiosulphate, with a usual dose of 50 mg.

About six months ago a warty growth developed on the right cheek. This increased in size until it eventually became an oval keratosis with underlying infiltration approximately 1.5 by 3 cm. This was excised on Dec. 2, 1933. Microscopic examination showed marked hyperkeratosis with large follicular plugs. Other parts of the epidermis were thin. The vessels in the derma were dilated. There were some edema and connective tissue degeneration and a marked cellular infiltration of round cells. The histologic diagnosis was lupus erythematosus.

DISCUSSION

DR. LUDWIG OULMANN: I agree with Dr. Satenstein's findings and regard the lesion on the nose as of the same nature as that on the cheek. There is no doubt that the patient has lupus erythematosus.

DR. FRED WISE: The puzzling feature to me is the presence of an independent and isolated lesion on the right ala nasi. It would be desirable to ascertain the nature of this separate growth by histologic examination.

DR. GEORGE M. MACKEE: It is impossible to know with certainty the cause of the scar or area of atrophy on the scalp. It may be the result of lupus erythematosus, of an abscess or of an injury. On the cheek there is considerable telangiectasia which may be the result of lupus erythematosus or which may have been caused by roentgen irradiation. The lesion on the nose is suggestive of early epithelioma. I saw slides made from the tissue that Dr. Andrews gave to Dr. Satenstein. My diagnosis was squamous cell epithelioma. I examined the slide that Dr. Andrews presented tonight. It does not show any evidence of epithelioma. The histologic picture is suggestive of lupus erythematosus, but I hesitate to make that diagnosis because there is absence of degeneration, which should be present in a lesion of this long duration. Nevertheless, I think that the patient has had lupus erythematosus and possibly has it now and that she has squamous cell epithelioma developing as a result of lupus erythematosus.

DR. J. FRANK FRASER: The microscopic picture fits in with the clinical diagnosis of lupus erythematosus. There is no histologic evidence in support of the diagnosis of carcinoma.

DR. MIHRAN B. PAROUNAGIAN: I am very much interested in this case. When I saw the patient she certainly had typical patches of lupus erythematosus on the cheek and nose. She had no evidence of the verrucous mass on the cheek. She had a verrucous lesion on the ala nasi and a lesion on the scalp. I have a patient now whose condition is a duplicate of this one. She improved markedly under injections of gold sodium thiosulphate.

DR. GEORGE C. ANDREWS: I think that the lesion on the nose is somewhat smaller since the patient has had two intravenous injections of gold sodium thiosulphate.

A CASE FOR DIAGNOSIS (ALOPECIA CICATRISATA?). Presented by DR. MAX SCHEER.

This girl, aged 6 years, when first observed at the skin clinic of the New York Post-Graduate Medical School and Hospital on Dec. 2, 1933, presented a patch of alopecia of two months' duration on the anterior portion of the scalp. The affected area was roughly diamond-shaped. The epidermis appeared atrophic. Some scaling was apparent on the skin surrounding the patch. The patient admitted trauma, stating that pruritus was bothersome at times. Examination for tinea gave negative results. No follicular involvement was detected to suggest folliculitis decalvans.

DISCUSSION

DR. FRED WISE: I think that the lesion is scleroderma. The location is a favorite one for scleroderma en bande.

SUPERFICIAL FLAT EPITHELIOMA OF THE SKIN. Presented by DR. MIHRAN B. PAROUNAGIAN.

This man, aged 59, presents a lesion over the right shoulder blade which was first noticed ten or eleven years ago. Occasionally there has been mild itching, but never pain. During all these years the lesion has increased only slightly in size. Various salves which he has applied have not benefited him at all.

He admits having had gonorrhea but says that he has not had syphilis. A Wassermann test on Jan. 3, 1934, was reported negative.

Over the right shoulder blade is a large flat lesion, irregular in outline, roughly from 8 to 9 cm. in diameter. The lesion is sharply demarcated from the healthy skin, and in places the border is slightly elevated, rolled and pearly in appearance. In places the border has a deep brownish pigmentation. The major portion of the lesion is brownish and deep pink with some flat papular lesions and multiple small crusts. There is no definite atrophy or adherent scales.

No other lesions are present on the skin except a large number of congenital pigmented hairy nevi.

A CASE FOR DIAGNOSIS (PEMPHIGUS VEGETANS?). Presented by DR. PAUL E. BECHET.

This white woman, aged 50, was seen for the first time today, so there has been no time for special investigation. She states that the eruption has been present for three months and that it started as small bullae, which soon became fused into patches, for the relief of which she applied to the clinic. There is no history of ingestion of drugs, and her general health is good. There has been no loss in weight. She presents two large plaques on the lateral aspects of the chest, measuring approximately 20 mm. in diameter. The patches are sharply marginated, elevated, edematous and reddened, with a papillomatous, condyloma-like, vegetating surface which on close inspection is seen to be made up of aggregated small bullae. While the plaques are sharply defined, small bullae arising on normal skin can be discerned at their periphery. There is no itching, and consequently there are no scratch marks. Other than the two plaques, not a single lesion can be discerned on the body. The buccal mucosa is normal.

DISCUSSION

DR. GEORGE M. MACKEE: The condition may well be due to fungi, but I think that a careful investigation should be made for the possibility that it is due to iodine or bromine. Interrogation of the patient is not sufficient.

DR. ISADORE ROSEN: The lesions are more suggestive of a mycotic infection or of lesions due to a constitutional disease than of a drug eruption. On examining the tongue one sees distinct evidence of atrophy. I suggest a thorough study of the blood to rule out a disease due to a disturbance of the hematopoietic system.

DR. PAUL E. BECHET: The eruption consists of two large edematous, reddened, inflamed plaques made up exclusively of aggregated bullae. There is no history of ingestion of drugs. The eruption, in my opinion, presents an appearance entirely different from that in Dr. Eller's case of iododerma, nor does it resemble a drug rash. I have never seen a mycotic dermatosis consisting entirely of aggregated bullae. Even though the genital regions are free from eruption, I do not believe that this definitely excludes vegetating pemphigus; it is possible for the disease to appear in locations other than the mouth and genital region.

EPITHELIOMA OF THE GLANS PENIS. Presented by DR. MIHRAN B. PAROUNAGIAN.

O. P., aged 42, an Italian, has a lesion on the glans penis which, he states, is of four months' duration. The lesion is not painful but itches slightly at times. He complains of pain in both inguinal regions of about the same duration.

There is no history of syphilis. A private physician gave him ten small injections into the buttock, which did not change the lesion.

On the glans penis and extending into the sulcus there is a well defined lesion about the size of a ten cent piece, dark brown, with a raised rolled border and a depressed center, but without ulceration. The lesion is firm to the touch, and palpation reveals induration also in the adjacent part of the penile shaft. The inguinal glands bilaterally are moderately enlarged and firm.

Wassermann tests on Dec. 11 and 18, 1933, were both negative. As the lesion resembled an indurated chancre, he was given, in spite of the negative Wassermann reports, two injections of 0.15 Gm. of silver arsphenamine which did not alter the lesion. He has no other cutaneous lesions.

DISCUSSION

DR. MAX SCHEER: The lesion does not look to me like an epithelioma. It may possibly be a gumma. The color suggests tuberculosis.

DR. LUDWIG OULMANN: I cannot conceive of this being a tuberculous lesion. The color and the smooth surface speak against it. A gumma would have been influenced by the amount of treatment given. I agree with the presenter. A biopsy will eventually clear up the diagnosis.

DR. FRED WISE: I agree with Dr. Scheer. There are no evidences of peripheral telangiectasia. The infiltration is less suggestive of epithelioma than it is of tuberculosis.

DR. GEORGE M. MACKEE: The lesion may be an epithelioma, but I doubt it. The infiltration is not sufficiently hard. Moreover, the patient states that the lesion improved under treatment. To rule out gumma more vigorous therapeutic tests should be given. If gumma and chancre redux can be ruled out, one must think of some form of tuberculosis. The lesion may be what used to be called tuberculous gumma.

DR. ISADORE ROSEN. I think that there is a strong possibility that the condition is a tertiary syphilitic lesion. The clinical appearance, semilunar outline, infiltration and duration all speak in favor of syphilis rather than of epithelioma. I suggest that the patient be treated further with antisyphilitic remedies before any radical procedure is undertaken.

DR. MIHRAN B. PAROUNAGIAN: I never saw a gumma so indurated as this lesion. If the lesion were syphilitic, the injections that he has received would have materially benefited it.

LYMPHOGRANULOMA INGUINALE (WITH PENILE INITIAL LESION). Presented by DR. LUDWIG OULMANN.

This man, aged 40, states that he had intercourse six weeks ago with a white woman and that he has never had intercourse with a colored or half-caste woman. Three weeks ago he noticed a sore in the sulcus of his penis. He applied for treatment in the department with which I am associated, and a herpes-like lesion as well as a beginning bubo on the left side was found. The lesion on the penis was on the right side.

A Frei test was made, which was strongly positive. The bubo had become larger and suppurated. He received five injections of fuadin and the bubo diminished considerably, the discharge almost stopped and the pains which he had complained of disappeared.

I am presenting the patient because the Frei test reaction may still be seen after three weeks, and the primary lesion, which has changed into a papule one-half the size of a lentil, is still visible.

PSORIASIS PUSTULOSA (SLIDE). Presented by DR. GEORGE M. MACKEE.

A woman, aged 40, has been under my observation for six years. When I first saw her there was an eruption on the palms and soles, mainly on the palms, which had been present for several years and which had been diagnosed as dermatomycosis by several excellent dermatologists. A characteristic of the eruption was frequent exacerbations consisting of almost innumerable tiny, deep-seated, closely crowded pustules with considerable inflammation. Each exacerbation lasted several weeks and was followed by a comparatively quiescent period during which there were few or no pustules. During these periods the skin was usually dry and scaly. There never were any vesicles. All the finger-nails were greatly involved. There was considerable subungual thickening. The nails were brittle, thickened, furrowed and ridged. Clinically, their condition resembled both onychomycosis and psoriasis, although it was not typical of either disease. There was no history of psoriasis in the family, and there had never been any eruption on other parts of the body. The eruption had resisted all the established therapeutic measures for dermatomycosis and psoriasis. Repeated examinations for fungi, both in cultures and directly in specimens, gave negative results. Intradermal, scratch and patch tests with trichophytin and oidiomycin were negative. The pustules were repeatedly sterile.

Dr. Paul O'Leary of the Mayo Clinic succeeded in obtaining a biopsy specimen. Tissue was removed during a quiescent stage. Dr. O'Leary thought that the histologic picture suggested psoriasis, and he sent slides to me and I in turn presented them to the members of the Manhattan Dermatologic Society. The slides showed little change in the derma. The epidermis was moderately acanthotic with elongation of the papillae. There was no spongiositis and little edema. The granular layer was absent in places, and over those areas there was parakeratosis. In other areas there was some hyperkeratosis and the granular layer was normal. There were no abscesses.

Both clinically and histologically I considered the condition to be pustular psoriasis. Clinically it was identical with that of the patient presented by Dr. Andrews at the December 1933 meeting of the society. The histologic picture shown by his patient did not suggest psoriasis, possibly because the biopsy specimen was taken during an exacerbation and from a pustular area.

DISCUSSION

DR. J. FRANK FRASER: From a glance at the section without knowing the history of the case, I am of the opinion that the histologic picture confirms the clinical diagnosis of psoriasis. Absence of the granular layer is not an essential histologic feature.

Dr. George C. Andrews: I have examined this slide and find the histologic picture very different from that shown by the patients whom I presented at the 1933 session of the American Medical Association at Milwaukee. The object in presenting my patients was to show that not all pustular eruptions of the palms and soles are either pustular psoriasis or dermatomycosis.

Dr. George M. MacKee: I examined the slides which Dr. Andrews gave to Dr. Satenstein, and there was nothing in them to suggest psoriasis; that is, there was nothing that conformed to the typical histologic picture of psoriasis. That is usually the case in pustular psoriasis. As a rule, the biopsy specimens are taken during a pustular and inflammatory exacerbation. The specimen should be taken between exacerbations, during the squamous stage when there are very few or no pustules. In my opinion most of the patients in the Andrews series had pustular psoriasis.

Paget's Disease of the Nipple. Presented by Dr. J. Frank Fraser.

A microscopic examination of sections from a second biopsy specimen established the diagnosis of Paget's disease of the nipple in a case previously presented before the society.

DETROIT DERMATOLOGICAL SOCIETY

William G. Saunders, M.D., *Secretary*

Regular Meeting, Jan. 16, 1934

Harther L. Keim, M.D., *Presiding*

Lupus Erythematosus? Presented by Dr. Andrew P. Biddle.

M. D., aged 69, a widow, a housewife, presents a group of circular yellowish macules the size of a coin on the forehead and a few bluish maculopapules on the fingers of the right hand. The lesions on the forehead show some atrophy. The lesions are of two years' duration and are resistant to treatment. There have been no subjective symptoms. There is an associated seborrheic dermatitis of the scalp.

DISCUSSION

Dr. Chester A. Doty: The appearance and the chronicity of the condition suggest sarcoid or a chronic dermatitis which I have observed in cases of infection of the gallbladder. I favor a diagnosis of Boeck's sarcoid.

Dr. Udo J. Wile: I feel that the condition is lupus erythematosus because of the appearance of the lesions on the hands and the atrophy in some of the lesions on the forehead.

Dr. Harther L. Keim: There is an atrophic patch on the dorsum of the tongue.

Dr. Emmett C. Troxell: I favor a diagnosis of lupus erythematosus.

Dr. Loren W. Shaffer: I feel that the lesions on the forehead are sarcoids because of the translucence, atrophy and annular configuration. The lesions on the hands may also be sarcoids.

Dr. Robert C. Jamieson: I suggest granuloma annulare as a possibility.

A Case for Diagnosis (Cystic Acne? Tuberculous Granuloma?). Presented by Dr. Robert C. Jamieson.

H. S., a white woman aged 31, American, had mild pulmonary tuberculosis ten years ago, but the lungs now appear normal on roentgen examination. She weighs 100 pounds (45.4 Kg.) and never has been of strong physique.

In 1930, she had mild acne rosacea on the anterior portion of each cheek, which lasted for six months. This was apparently cured by injections of acne vaccine. The lesions recurred slightly in 1931.

Thyroidectomy in January 1933 was followed by general improvement in health.

General physical examination in November 1933 revealed nothing abnormal except a basal metabolic rate of —17.

In April 1933, a group of deep-seated, bluish-red acneform lesions appeared on the right cheek, chin and forehead. They healed slowly after drainage. A few mild roentgen treatments in October and November 1933 did not improve the condition.

Following a stay at Ann Arbor, Mich., but without treatment, the face took on its present appearance. The larger lesions diminished in size. A larger number of brownish lesions appeared on the cheeks and forehead, presenting almost an apple jelly color. Some of the lesions on the forehead have been followed by pitting, and others have left pronounced scars.

Biopsy performed at Ann Arbor was reported to show chronic infective granuloma, probably tuberculous. This opinion, however, was not concurred in by the dermatologic department.

The patient has been resting constantly and taking thyroid, and some general improvement has been observed.

DISCUSSION

DR. ARTHUR P. R. JAMES: After seeing the sections I felt that the condition was tuberculous.

DR. UDO J. WILE: The sections were taken from a fairly large infiltrated lesion.

DR. HOWARD J. PARKHURST: Giant cells may be found in acne vulgaris. I think that the condition is indurated or cystic acne.

DR. LOREN W. SHAFFER: I have seen patients with similar lesions recover under the routine treatment for acne vulgaris. I wonder about the character of these cystic lesions. They seem to be indurated acne. What is the possible relationship of tuberculosis to such an eruption?

DR. CLYDE K. HASLEY: In the last two years my associates and I have had several similar cases, all in patients past the age of 20 who showed old calcified pulmonary tuberculosis. We have drained the superficial lesions and administered sodium iodide and hypermassive doses of ultraviolet rays. We have considered the condition cystic acne.

DR. ARTHUR E. SCHILLER: My opinion is the same as Dr. Hasley's. These patients respond well to ultraviolet radiation in doses just short of the amount required to produce vesiculation. I have observed marked improvement after two such treatments.

DR. HARTHER L. KEIM: May not Dr. Schiller's suggestion as to treatment be in line with Dr. Ayres' suggestion of peeling to get rid of the demodices?

DR. U. J. WILE: For many years dermatologists have been calling eruptions of this type cystic acne. The majority of the cases, however, do not conform to the criteria for ordinary acne. In the first place, they occur in older persons, mostly women, many of whom are married. The onset is usually abrupt, in contrast to that of acne which develops in adolescence.

Many of the patients observed by my associates and me have had a perfectly clear skin up to a short time before the eruption was at its worst. There are few or no comedones.

The condition progresses rapidly to the formation of large confluent abscesses much like the cold abscesses of tuberculosis.

The histologic changes have been interesting. Although one may find giant cell formation in acne, this is an exception rather than the rule. The cases in question, such as the one presented here, show a typical tuberculoid structure.

The general pathologist had no hesitancy in stating that the condition was typical caseous tuberculosis. Naturally, the proof of this will depend on the demonstration of tuberculous bacilli either in the section or by animal inoculation.

I feel reasonably certain that the patient has granuloma, most likely an unusual form of tuberculous granuloma.

The two outstanding findings in the history are a more than occasional occurrence of tuberculosis in the family and a frequent disturbance of sexual function in the patient. Dysmenorrhea and the interruption of normal sexual relations have been noted.

My associates and I are studying such cases now with the hope that we may at some time in the near future be able to explain their causation.

DR. EMMETT C. TROXELL: Is the incidence of this condition apparently increasing?

DR. UDO J. WILE: We have seen several cases lately. The lesions may be due to susceptibility to iodine. The present case had its onset after thyroidectomy. We have never found iodine in the urine in such a case.

DR. ROBERT C. JAMIESON: When the lesions developed, four years ago, they were typical of acne rosacea. If the patient had been ten or twelve years younger, we should have called the present condition indurated acne. We did not start ultraviolet therapy for fear of producing lupus erythematosus in a tuberculous patient. Are the lesions actually tuberculous, or do they merely develop on a tuberculous foundation? The cystic lesions contain blood and pus. There might be some endocrinous disturbance on a sexual basis. The underlying factor may be either tuberculous or hormonal.

NEW YORK DERMATOLOGICAL SOCIETY

R. H. RULISON, M.D., *Secretary*

Regular Meeting, Jan. 23, 1934

EDWARD R. MALONEY, M.D., *President*

A CASE FOR DIAGNOSIS. Presented by DR. GEORGE M. MACKEE.

T. H., a priest, aged 39, was first seen today. Eighteen months ago a lesion, said to have been a sebaceous cyst, developed behind the right ear. The lesion discharged thick, yellowish pus for two years, at the end of which time it was incised. A month or two after the incision, the surrounding tissue became inflamed, and the lymphatic glands in the immediate vicinity became swollen. These broke down later and caused abscesses and sinuses. A number of incisions have been made, and the patient has received several x-ray treatments, ultraviolet therapy, wet dressings and topical remedies, in spite of which the condition continued to spread. The only investigations that have been made are cultural studies and microscopic examination of smears. The only organism that has been identified is the pneumococcus.

The entire left side of the neck is hard, owing to deep edema and infiltration. There are a few areas of softening and fluctuation, several discharging sinuses and three deep, crateriform ulcers, varying in size from that of a split pea to that of a silver dollar. Behind the ear is an area the size of a silver dollar covered with moist vegetations. There are some tenderness and considerable stiffness, but there is much less discomfort than one would suspect from the appearance of the involved areas.

I intend to institute a comprehensive investigation consisting of roentgenography, serologic examination of the blood, mycologic and bacteriologic examination, animal inoculations, biopsy, etc. In the interim the patient will be hospitalized and treated with continuous wet dressing of boric acid. The diagnoses to be considered are: a low-grade streptococcic infection or perhaps a similar condition caused by the pneumococcus or the diphtheria bacillus; a mycotic infection, such as blastomycosis, actinomycosis or sporotrichosis; tularemia; syphilis, and tuberculosis.

DISCUSSION

DR. H. H. WHITEHOUSE: A diagnosis cannot be made until further investigations, biopsy and so on have been made. The condition is said to have originated from or begun as a cyst, but I think that only biopsy can reveal its present nature. I do not think that it has developed from a sebaceous cyst. Without biopsy one cannot tell whether it is tuberculous rather than some other form of granuloma. The lesions look clinically like tuberculous ulcerations.

DR. E. F. TRAUB: If I understood Dr. MacKee's interpretation of the history correctly, he does not feel that there was really a sebaceous cyst; the lesion was merely mistaken for one. That is the way I feel also. The condition is undoubtedly a rare type of granuloma, and the most likely possibilities seem to be tuberculosis and sporotrichosis.

DR. BINFORD THRONE: I think that both sporotrichosis and actinomycosis should be considered.

DR. R. H. RULISON: The presenter suggested the possibility of tularemia. I think that the roentgenogram of the lungs would probably rule out tularemia at this stage, after seven months. I do not know much about tularemia, but a pathologist who recently observed a case and who has performed autopsies in three or four cases in the last ten years told me that the autopsies showed massive involvement of the lungs. If the roentgenogram of the chest in this case shows nothing abnormal, I think that will militate somewhat against a diagnosis of tularemia. I have no diagnosis to offer.

DR. R. H. RULISON: Is there any significance attached to the finding of pneumococci in the cultures?

DR. GEORGE M. MACKEE: No condition has been ruled out in this case, certainly not the mycotic infections. Three different bacteriologic examinations have been made, and fungi were not found either extemporaneously or in culture, but I do not know how thoroughly the work was done. The only organism found in culture was identified by a bacteriologist as a pneumococcus. I am unable to answer Dr. Rulison's question regarding the significance of the finding of the pneumococcus. I am inclined to think that it has no bearing on the case. I suspect that the condition is a low grade adenitis and cellulitis caused by a streptococcus.

A CASE FOR DIAGNOSIS (ECZEMATOID DERMATITIS? MYCOSIS FUNGOIDES?). Presented by DR. PAUL E. BECHET.

This man, aged 42, five years ago had an eruption on the hands and wrists, and since that time he has had recurring attacks. The present eruption began fourteen months ago and has become progressively worse, despite the most painstaking treatment by Dr. Wise, Dr. Lapowski and myself. I first saw the patient one year ago. At that time he had a typical eczematoid dermatitis (?) of almost universal distribution. There was much vesiculation and weeping. Six one-fourth unit doses of x-rays (2,160 roentgens) almost cleared the eruption, but it imme-

diately recurred, and there were no beneficial effects from further roentgen treatment. There were some remissions, but at the end of six months, during six weeks of which he was hospitalized, there was no improvement. He then was treated by Dr. Wise and Dr. Lapowski, with similar negative results. After seven months he returned to me. The lesions have undergone some changes. There seems to be much less vesiculation, and they have become markedly infiltrated, sharply outlined and distinctly raised. He has always exhibited eosinophilia, but otherwise the blood has been normal. Trichophyton tests were negative. The potassium iodide test was negative. The patient is neurotic and constantly rubs the patches with his hands.

DISCUSSION

Dr. George M. MacKee: The areas of infiltration are suggestive of the prefungoid stage of mycosis fungoides. Before offering therapeutic suggestions it is advisable to establish a diagnosis. A histologic study is specifically indicated.

Dr. J. Frank Fraser: If the condition is mycosis fungoides, sections from the infiltrated areas should show the typical histologic picture.

Dr. E. F. Traub: I agree with what Dr. MacKee said in regard to mycosis fungoides.

Dr. J. Frank Fraser: Would Dr. Bechet object to having Dr. Gaul make a spectroscopic examination to determine the presence of copper? Dr. Gaul has been finding an abnormal amount of copper in the skin of patients with generalized neurodermatitis.

Dr. Paul E. Bechet: I shall be delighted to have a spectroscopic examination made.

Dr. H. H. Whitehouse: I think that one will have to wait for the report on the biopsy before making a diagnosis.

Dr. George M. MacKee: If the condition is eczema, one will have to treat it as such, making a spectroscopic and chemical search for heavy metals, hospitalizing the patient, using topical remedies, making skin tests, and so on. On the other hand, if it is mycosis fungoides, judicious roentgen therapy and arsenotherapy are indicated.

Dermatosis Papulosa Nigra? Presented by Dr. E. F. Traub.

J. H., a Negress aged 39, born in Florida, has an eruption which began on the face over fifteen years ago. The majority of the lesions are on or about the malar eminences, although isolated lesions are scattered over other parts of the face, with a few on the neck and the chest. Some of the lesions do not consist of a typical rounded papule with pigmentation but are filiform, strongly suggesting ordinary filiform warts. A lesion was removed from the face for microscopic study, but the section is not ready for examination.

DISCUSSION

Dr. George M. MacKee: I do not believe that the condition is dermatosis papulosa nigra, although I thought that it was when I saw the patient at a distance. On close inspection one sees filiform and digitate lesions developing on the papules. So far as I know dermatosis papulosa nigra does not produce lesions of this type. It is not progressive after a certain point, and the papules remain unchanged throughout life. In this case the lesions are increasing in number and in size and are undergoing transition into filiform and digitate warts and perhaps little fibromas. The condition, which consists of flat warts, digitate warts and

filiform warts and perhaps some tiny fibromas, is a polymorphous eruption. A histologic examination may lead to the correct diagnosis.

Dr. Jerome Kingsbury: My impression is similar to that of Dr. MacKee. I regard the condition as multiple flat verrucae.

Dr. Paul E. Bechet: I presented before the Academy of Medicine a patient with a condition so similar to that of Dr. Traub's patient that I was at first convinced that she was the same woman. Michael in his original article distinctly mentioned that there were papules. This patient of course has papules, but she has at the same time some verruca-like lesions. My patient presented similar lesions. The diagnosis that I made was not accepted at the meeting, but I still think that it was probably correct.

Dr. E. R. Maloney: To me the general appearance of this patient's eruption is that of dermatosis papulosa nigra, but there are certainly lesions present which I have never seen in that condition. In addition to the filiform lesions mentioned by Dr. MacKee there were lesions that contained hairs, that is, warty growths lining hair shafts. If the condition is a dermatosis, I have never seen one like it. It is possibly some type of verruca.

Dr. E. F. Traub: Castellani, who first described this condition in 1925, was under the impression that the lesions were closely allied to warts and probably due to some type of infection, but Michaels and Seale believe that they are nevi. This may help to differentiate the two conditions, as I completely removed a lesion near the angle of the jaw for microscopic study.

Nevus Sebaceus Linearis. Presented by Dr. E. R. Maloney.

This girl, aged 15, presents a linear eruption on the left side of the face extending from the angle of the jaw to the chin, about 3 inches (7.5 cm.) long and ¼ inch (0.6 cm.) in width. It has existed since birth and is made up of closely aggregated yellowish, various-sized, soft papules, some with follicular openings topped in many instances with comedones. A histologic examination of a section taken from this nevus showed a structure similar to that of adenoma sebaceum.

DISCUSSION

Dr. E. F. Traub: I believe that even in a clinical examination of this patient one would be justified in making a diagnosis of nevus sebaceus. The microscopic observations, of course, settle the point beyond doubt, though it is interesting to note that apparently from the section one cannot differentiate between a sebaceous nevus and adenoma sebaceum. Within the past month I observed a patient with a similar unilateral lesion on the side of the nose. The linear distribution was not as pronounced as that shown by this patient, but the microscopic picture was exactly similar.

Dr. H. H. Whitehouse: I agree with Dr. Traub that clinically there are sebaceous lesions.

Dr. George M. MacKee: The lesion looks to me like a sebaceous nevus. I think that the diagnosis can be made clinically because of the small lesions which represent sebaceous cysts or which are caused by hypertrophic sebaceous glands. There are also some comedones. I believe that if further histologic study is made, widely dilated follicles full of horny sebaceous material and débris will be found, and perhaps the so-called double comedones—a pilosebaceous nevus.

Dr. Paul E. Bechet: The linear distribution is interesting because most of the cases of this type that I have seen have consisted of a single group of lesions and have occurred in children. The grouped patch consists of comedones and has

been present almost from birth. There is a type of nevus with pilosebaceous or comedo formation. The strange thing is that it can be linear, as in Dr. Maloney's patient.

DR. GEORGE M. MACKEE: I have found such lesions stubborn to therapeutic measures such as electrodesiccation, freezing with carbon dioxide snow, and the application of radium. The results may be temporarily good, but recurrences are common. Small portions of sebaceous glands remain and undergo further hypertrophy, forming cysts again. I think that the best treatment, when the lesion is of proper size and location, is ordinary excision.

DR. E. R. MALONEY: This case was presented not as one of adenoma sebaceum but as one of a linear nevus with a histologic picture similar to that of adenoma sebaceum. I think that I covered that point in the description that I gave of the lesion, mentioning the individual papules with the comedones. The patient has been seen only once or twice. She came into St. Vincent's Hospital last week. I intend to have the lesion removed surgically.

SCLERODERMA? Presented by DR. BINFORD THRONE.

Mrs. M. G., aged 34, white, American, of German descent, was referred to me by Dr. W. H. Best on Dec. 6, 1933, for a condition which began fourteen years ago. At that time the patient bruised the right malar region by striking it against a piece of furniture. This was followed by atrophy. About eight months ago the area became swollen again. Ultraviolet irradiations were given. In August 1933 similar lesions appeared on the forehead above the original lesion, and about December 1 the scalp became affected.

On the forehead and about the external angle of the right eye there are areas of depressed, atrophic skin. The color is slightly red. There is practicallly no scaling, and there are no dilated follicles. In the right parieto-occipital region there is alopecia. The skin is reddened and scaly and shows beginning atrophy. The follicles are not dilated. The previous history is negligible except that appendectomy was performed. The patient has two healthy children. Her weight has decreased from 147 to 96 pounds (66.7 to 43.5 Kg.).

General medical examination in February 1933 gave the following results: Gastro-intestinal examination revealed nothing abnormal. Roentgenograms of the spine and the chest and of the head at the site of injury revealed normal conditions. The Wassermann reaction of the blood was negative. The blood sugar was 95 mg. per hundred cubic centimeters. The renal function test showed a concentration of urine of from 1.010 to 1.030 specific gravity. The blood pressure varied from 120 systolic and 80 diastolic to 130 systolic and 90 diastolic. Gastric analysis showed free hydrochloric acid, 23, and total acidity, 41. The basal metabolism was + 8. Menstruation was deficient.

At the Skin and Cancer Hospital a chemical examination of the blood on Jan. 4, 1934, showed: chlorides (average of seven tests), 487 mg. per hundred cubic centimeters; urea nitrogen (average of seven tests), 14 mg.; uric acid (average of seven tests), 2.2 mg.; calcium, 10.2 mg.; phosphorus, 4.6 mg.; potassium, 20.2 mg.; sodium, 316 mg., and carbon dioxide, 65.6 per cent by volume. The cholesterol content of the whole blood was 182 mg. per hundred cubic centimeters; that of the serum, 192 mg., and that of the plasma, 174 mg. The amount of fatty acid in the whole blood was 205 mg.; that in the serum, 263 mg., and that in the plasma, 239 mg. The lecithin content of the whole blood was 10.1 mg.; that of the serum, 10.2 mg., and that of the plasma, 9.5 mg.

The results of the dextrose tolerance test (0.8 Gm. of dextrose per pound [0.45 Kg.] of body weight) were as follows: before the administration of dextrose, 92 mg. per hundred cubic centimeters; after one-half hour, 133 mg.; after one hour, 94.8 mg.; after one and one-half hours, 115.1 mg.; after two hours, 107.3 mg.; after three hours, 71.2 mg., and after four hours, 81.6 mg.

Basal metabolism tests were made on January 2 and January 10. Immediately after the first test the patient was given 150 Gm. of meat, two large slices of bread and a liberal amount of butter. The results of these tests were as follows:

Hours after First Test	January 2	January 10
0	+12.3	+ 7.2
½	+19.2	+14.6
1	+20.8	+25.4
1½	+23.3	+25.4
2	+17.8	+10.5

The results of examination for heavy metals were as follows: The blood before the administration of sodium thiosulphate contained 0.039 mg. of arsenic per hundred grams of dried substance and no lead. The urine before the administration of sodium thiosulphate contained 0.036 mg. of arsenic per hundred grams of dried substance and 0.04 mg. of lead; after the administration of the thiosulphate it contained 0.06 mg. of arsenic and 0.04 mg. of lead.

Biopsy was done, and the report was as follows: "The section shows an atrophic epidermis covering a very edematous corium. The edema of the corium extends well down to the midcorium. There is rather dense inflammatory exudation about the hair follicles and in small islands in the upper part of the corium and midcorium. The connective tissue fibers take an intense acid stain and in most places have lost their contours or are broken. The picture gives the impression of scleroderma. The Weigert stain shows no elastic tissue fibers except very fine ones. The diagnosis is scleroderma in the edematous stage."

DISCUSSION

Dr. J. Frank Fraser: The picture under the microscope is not suggestive of scleroderma. If I were shown the section without knowing anything of the clinical history my first guess would be lupus erythematosus. There are a thin epidermis, numerous follicular plugs and characteristic edema of the papillary bodies. There is degeneration of the collagen fibers, and the cellular exudate around the vessels of the appendages is characteristic of lupus erythematosus.

Dr. Binford Throne: I have made no diagnosis in this case. The diagnosis of scleroderma was made by the pathologist.

Dr. George M. MacKee: In addition to the features mentioned by Dr. Fraser there is a distinct basophilic degeneration of the midcutis, which is more characteristic of lupus erythematosus than of scleroderma. Clinically there are features suggestive of both diseases. I favor the diagnosis of lupus erythematosus.

Dr. R. H. Rulison: The loss of weight in this case is a startling feature. It does not seem to me, as I know scleroderma, that the diagnosis of scleroderma is compatible with the loss of weight. On the other hand, if the patient has lupus erythematosus and some focus of infection or possibly some tuberculous area has been missed in the extensive examinations that have been made, that may have some bearing on the loss of weight. I have no diagnosis to offer.

Dr. Binford Throne: When I first saw the patient I was rather inclined to make a diagnosis of lupus erythematosus, but the absence of definite scaling and the absence of dilated follicles in the lesions on the forehead made me rather

skeptical of that diagnosis. I did not consider scleroderma until the laboratory report was made. The thing in which I was most interested was naturally the loss of weight. The laboratory findings have all been insufficient to explain the loss. There was considerable mental disturbance at one time. The patient imagined that she had been infected with syphilis, but I think that that idea was soon dispelled by the negative Wassermann reaction. Then she had an idea that she had cancer. Even that I do not think would be sufficient to account for this loss of weight. Dr. Weissberg, who made the medical examination, is competent, and I feel that his results can be accepted *in toto* without discussion. Roentgen examination of the lungs was done repeatedly, three or four times I think. Would Dr. MacKee be willing in a case of this kind to institute treatment with a gold compound?

DR. GEORGE M. MACKEE: I should rather establish a diagnosis first.

DR. BINFORD THRONE: As to the suggestion of nerve injury, why should more than thirteen years elapse from the time of the original injury until this so-called secondary lesion developed on the temple? Moreover, the nerve supply of the back of the scalp, as I remember it, is entirely different from that of the forehead.

POIKILODERMA ATROPHICANS VASCULARE. Presented by DR. PAUL E. BECHET.

This woman, aged 42, whom I presented before the Section of Dermatology and Syphilology of the New York Academy of Medicine in November 1933, states that the eruption had been present for twenty-two years. Most of the lesions are on the trunk and arms; they consist of brownish-red macules and distinct atrophy, with a network of dilated capillaries intermingled with the patches, giving the dermatosis the characteristic red marble grain described by Dr. John E. Lane as present in his original case. Many of the patches resembled severe radiodermatitis.

DISCUSSION

DR. GEORGE M. MACKEE: I agree with the diagnosis. Almost every characteristic symptom is present—telangiectasia, pigmentation and atrophy.

DR. H. H. WHITEHOUSE: As Dr. MacKee says, the patient seems to have the clinical lesions of poikiloderma atrophicans vasculare, namely, telangiectasia, pigmentation and atrophy. There are none of the areas, large or small, resembling radiodermatitis with deeper atrophy, as there were in the two cases which I have reported or in Dr. John Lane's case. The curious thing is that these cases differ so much. As the members know, my two cases occurred in a woman of 37 and in a little girl. The girl had such atrophy that she was muscle bound, almost like the so-called "ossified man." She had distinct "x-ray burn" lesions over the scalp and the characteristic pigmentation. Dr. Lane's patient, I believe, died from leukemia. All the cases are different. I should not say absolutely without further careful examination in daylight that this patient has in reality poikiloderma vasculare atrophicans.

REPORT ON A CASE DIAGNOSED AS SQUAMOUS CELL CARCINOMA (?) ON THE CHIN AT THE DEC. 19, 1933, MEETING. Presented by DR. E. F. TRAUB.

This man, aged 66, had a lesion on the chin of six weeks' duration which at the former presentation was diagnosed as a squamous cell carcinoma (?). The patient stated that he had a small pimple on his chin, which he cut while shaving. Pus discharged from the small wound, which failed to heal and which increased in size for the six weeks preceding his presentation. The question mark was appended to the diagnosis merely because the pathologist insisted that the lesion

did not show the structure of squamous cell carcinoma. The members who examined the section at the meeting, however, agreed that it was squamous cell carcinoma both microscopically and clinically. Further bacteriologic studies and examinations for fungi revealed nothing definite. A dark-field examination was done, but the results were negative. The lesion on the chin was then excised *in toto,* and both a frozen section and a regularly prepared series of sections failed to show any evidence of carcinoma. The large mass under the jaw was incised and a quantity of pus and necrotic material discharged, and the wound was packed. The lesion on the neck, therefore, was merely an abscess, with no suggestion of carcinoma. Apparently the condition was only a low-grade pyogenic infection because when the patient was discharged from the hospital he was practically well, and nothing had been discovered to confirm the suggestion of malignant disease.

KERATOSIS ON THE LOWER LIP IN A PATIENT SHOWN AT THE DEC. 19, 1933, MEETING. Presented by DR. E. F. TRAUB.

This man, aged 24, had two lesions on the lower lip. The older lesion was a squamous cell carcinoma and the other a keratosis.

DISCUSSION

DR. E. F. TRAUB: In view of the unexpected outcome in this case I believe that it will be interesting to add a report on the case that Dr. Bechet presented before the society in December 1932, that of a syphilitic man about 40 years of age who had an old scar on his leg in which a large mass had developed. Biopsies made in the hospital were reported successively as showing papilloma, granulation tissue and pyogenic granuloma but no malignant growth. The majority of the members who discussed the case at the time of presentation made a diagnosis of carcinoma. The lesion was completely excised on Feb. 1, 1933, and the final laboratory diagnosis was papilloma. I questioned this diagnosis and found that a definitely benign lesion was meant. The wound healed slowly after excision. The patient has been carefully followed; and when he was seen about four weeks ago the leg had completely healed and no evidence of the condition remained. In this case evidently the early sections revealed the true state of affairs as no carcinoma was found even on complete removal of the tumor.

DR. GEORGE M. MACKEE: In the case of the lesions on the chin, the section from tissue removed surgically does not show epithelioma. However, this fact alone is not conclusive, for serial sections might show a different picture. On the day that the patient was presented, several of the members hastily examined a section from biopsy material, and we thought that it showed squamous cell epithelioma. The suggestive features were a rather wild acanthosis with underlying infiltration and islands of epithelial cells in the cutis showing considerable horn formation. These features may be present at the edge of old ulcers and may be benign. To establish a diagnosis of malignant growth in such a case it would be necessary to make cytologic studies for evidence of anaplasia, dyskeratosis, the condition of the basal cell layer, the character of the infiltration and so on. This we did not do. We were uncertain of the clinical diagnosis, and our opinion was based on a hasty examination of a section. The evidence at present is that the lesion was not carcinoma, and the lesson is that one should be more careful in the future.

The mistake made in the case of the lesion on the leg was natural and excusable. Clinically, the lesion resembled a carcinoma developing in a scar. Clinical diagnoses are seldom unequivocal and must be confirmed or refuted by histologic examination.

Book Reviews

The Common Diseases of the Skin. By Cranston Low. Second edition. Price, 12 shillings, sixpence, net. Pp. 317, with 150 illustrations. Edinburgh: Oliver & Boyd, 1934.

This new edition of Cranston Low's well known work will be welcomed. While it has been completely revised, it retains the characteristics that have made it a satisfactory book. It represents the exposition of one who has a wide and thorough knowledge of his special subject, who considers it from the standpoint of a similar knowledge of medicine in general and who combines with this knowledge and outlook sound practical common sense. It is the sort of book that is most useful in giving a satisfactory orientation in a subject to the student or general practitioner, and it deserves its success.

The 1933 Year Book of Dermatology and Syphilology. Edited by Fred Wise and Marion B. Sulzberger. Price, $2.25. Pp. 458. Chicago: The Year Book Publishers, 1934.

It is a pleasure to call attention again to the "Year Book of Dermatology and Syphilology," under the editorship of Wise and Sulzberger. In the year book for 1933 the authors have made some innovations tending to increase the usefulness of the work. A summary of current dermatologic literature, it is, as it has been for many years, a publication of the greatest importance and of value both to the dermatologist and to the general practitioner.

News and Comment

AMERICAN CONGRESS OF PHYSICAL THERAPY

The thirteenth annual scientific and clinical session of the American Congress of Physical Therapy will be held in Philadelphia at the Bellevue Stratford on September 10 to 13, 1934.

On Wednesday evening, September 12, a joint session will be held with the Philadelphia County Medical Society.

Special features will be the scientific and technical exhibits and the small group conferences.

Friday, September 14, has been set aside for hospital teaching clinics which will be held in the leading institutions of Philadelphia.

The preliminary program may be obtained from the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago.

Directory of Dermatologic Societies *

FOREIGN

British Association of Dermatology and Syphilology (Canadian Branch)

W. R. Jaffrey, President, 64 Hughson St., S., Hamilton, Ont.
Basil Bowman, Secretary-Treasurer, 408 Medical Arts Bldg., Hamilton, Ont.
Place: Montreal, Quebec. Time: 1935.

Royal Society of Medicine, Section of Dermatology

Henry MacCormac, President, 23, Wimpole St., W. 1, London.
W. N. Goldsmith, Secretary, 6, Upper Wimpole St., W. 1, London.

NATIONAL DERMATOLOGIC SOCIETIES

American Medical Association, Scientific Assembly, Section on Dermatology and Syphilology

Jeffrey C. Michael, Chairman, 1215 Walker Ave., Houston, Texas.
Harry R. Foerster, Secretary, 208 E. Wisconsin Ave., Milwaukee.
Place: Atlantic City. Time: June, 1935.

American Dermatological Association

Charles M. Williams, President, 114 E. 54th St., New York.
W. H. Guy, Secretary, 500 Penn Ave., Pittsburgh.

SECTIONAL DERMATOLOGIC SOCIETIES

Baltimore-Washington Dermatological Society

Harry F. Anderson, President, 1610, 20th St. N.W., Washington, D. C.
Joseph V. Kennedy, Secretary, 1835 Eye St., Washington, D. C.

Central States Dermatological Association

Joseph Brumberg, President, 528 Delaware Ave., Buffalo.
William F. Hoover, Secretary, 333 Linwood Ave., Buffalo.
Place: Buffalo. Time: 1934.

Iowa and Western Illinois Dermatological Association

J. C. Kessler, President, University Hospital, Iowa City.
Robert E. Jameson, Secretary, 1014 First National Bank Bldg., Davenport, Iowa.

New England Dermatological Society

Rudolph Jacoby, President, 270 Commonwealth Ave., Boston.
J. Harper Blaisdell, Secretary, 5 Bay State Road, Boston.

Southern Medical Association, Section on Dermatology and Syphilology

Thomas W. Murrell, Chairman, 17 E. Grace St., Richmond, Va.
C. C. Dennie, Secretary, Professional Bldg., Kansas City, Mo.
Place: San Antonio, Texas. Time: November, 1934.

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* Secretaries of dermatologic societies are requested to furnish the information necessary for the editor to make this list complete and to keep it up to date.

STATE DERMATOLOGIC SOCIETIES

Florida Society of Dermatology and Syphilology

Chairman for each meeting is elected from city in which meeting is held.
Elmo D. French, Secretary, 602 Huntington Bldg., Miami.

Louisiana Dermatological Society

J. A. Devron, President, 150 Baronne St., New Orleans.
M. T. Van Studdiford, Secretary-Treasurer, 912 Pere Marquette Bldg., New Orleans.

Medical Society of the State of New York, Section on Dermatology and Syphilology

George M. Fisher, Chairman, 264 Genesee St., Utica.
Frank Combes, Secretary, 80 W. 40th St., New York.

Medical Society of the State of Pennsylvania Section on Dermatology

Herbert J. Smith, President, 3303 N. 17th St., Philadelphia.
Robert L. Gilman, Secretary, 1930 Chestnut St., Philadelphia.

Michigan State Medical Society, Section on Dermatology and Syphilology

Robert C. Jamieson, Chairman, 1551 Woodward Ave., Detroit.
A. R. Woodburne, Secretary, Grand Rapids Clinic, Grand Rapids.
Place: Battle Creek. Time: September, 1934.

Minnesota Dermatological Society

D. D. Turnacliff, President, 407 Medical Arts Bldg., Minneapolis.
L. H. Winer, Secretary, 522 Medical Arts Bldg., Minneapolis.
Time: First Wednesday in October, December, February and April.

Oklahoma Dermatological Association

W. A. Showman, President, 108 W. 6th St., Tulsa.
C. L. Brundage, Secretary, 505 Osler Bldg., Oklahoma City.

Texas Dermatological Society

C. F. Lehmann, President, 303 E. Houston St., San Antonio.
Everett R. Seale, Secretary, 1215 Walker Ave., Houston.

LOCAL DERMATOLOGIC SOCIETIES

Atlanta Dermatological Society

Francis G. Jones, President, 384 Peachtree St., Atlanta, Ga.
Charles A. Wilkins, Secretary, Medical Arts Bldg., Atlanta, Ga.

Bronx Dermatological Society

Louis Chargin, Chairman, 1 W. 85th St., New York.
Henry Silver, Secretary, 290 West End Ave., New York.

Brooklyn Dermatological Society

Arthur Persky, President, 1750 Ocean Parkway, Brooklyn.
George F. Price, Secretary, 884 Lincoln Place, Brooklyn.
Time: Third Monday of each month except June, July, August and September.

Buffalo-Rochester Dermatological Society

Earl D. Osborne, President, 471 Delaware Ave., Buffalo.
Richard L. Saunders, Secretary, 33 Linwood Ave., Buffalo.

Chicago Dermatological Society

James H. Mitchell, President, 25 E. Washington St., Chicago.
Max S. Wien, Secretary, 104 S. Michigan Ave., Chicago.

Cincinnati Dermatological Society

Harry L. Claassen, President, Provident Bank Bldg., Cincinnati.
Raymond G. Senour, Secretary-Treasurer, 19 W. 7th St., Cincinnati.

Cleveland Dermatological Society

R. E. Barney, President, 1021 Prospect Ave., Cleveland.
E. W. Netherton, Secretary, 2020 E. 93d St., Cleveland.

Detroit Dermatological Society

H. L. Keim, President, 10 Witherell St., Detroit.
William G. Saunders, Secretary-Treasurer, 9203 Grand River Ave., Detroit.

Los Angeles Dermatological Society

Moses Scholtz, Chairman, 1930 Wilshire Blvd., Los Angeles.
Nelson P. Anderson, Secretary, 2007 Wilshire Blvd., Los Angeles.

Manhattan Dermatologic Society

Louis B. Mount, Chairman, 256 State St., Albany, N. Y.
Mihran B. Parounagian, Secretary, 126 E. 39th St., New York.

Montreal Dermatological Society

J. F. Burgess, President, Drummond Medical Bldg., Montreal, Canada.
B. Usher, Secretary-Treasurer, 1538 Sherbrooke St., W., Montreal, Canada.

New York Academy of Medicine, Section of Dermatology and Syphilis

Ray H. Rulison, Chairman, 145 E. 54th St., New York.
E. William Abramowitz, Secretary, 853, 7th Ave., New York.

New York Dermatological Society

Edward R. Maloney, President, 853 7th Ave., New York.
R. H. Rulison, Secretary, 145 E. 54th St., New York.

Omaha Dermatological Society

J. W. Hellwig, Chairman, 1319 Farnam St., Omaha.
Donald J. Wilson, Secretary, 1216 Medical Arts Bldg., Omaha.

Philadelphia Dermatological Society

Robert L. Gilman, Chairman, 1930 Chestnut St., Philadelphia.
Vaughn C. Garner, Secretary, Greene and Coulter Sts., Philadelphia.

Pittsburgh Dermatological Society

Frederick Amshel, Chairman, 3401 5th Ave., Pittsburgh.
Bernhard Goldmann, Secretary, Jenkins's Arcade, Pittsburgh.

St. Louis Dermatological Society

Richard S. Weiss, President, 3720 Washington Blvd., St. Louis.
M. F. Engman, Jr., Secretary-Treasurer, 3720 Washington Blvd., St. Louis.

San Francisco Dermatological Society

H. J. Templeton, President, 3115 Webster St., Oakland, Calif.
John M. Graves, Secretary, 909 Hyde St., San Francisco.

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CONTENTS

Treatment of Resistant Somatic Syphilis 1

Histologic Ion Concentrations in Lotions 6

Preparations of Trichophytine 8

An Old French Poem on Syphilis and Its 9

Kahn Reaction in a Group of College 20

Parergon: Evidence in Support of a 22

An Aid in the Management of Occupational 30

Cutaneous Manifestations of Arsenic 31

Autolysate Therapy for Verruca Vulgaris 36

Colloidal Mercury Sulphide in the Treatment 39

Hematogenous Cutaneous Tuberculosis 40

Dermatitis Due to Potassium Mercuric 50

Keratosis, Leukoplakia and Pruritus Vulvae: 59

Bibliography: 101

Obituaries: 103

Abstracts from Current Literature 105

Society Transactions: 125